



INDUSTRIAL COMMISSION OF NORTH DAKOTA

Doug Burgum
Governor

Drew H. Wrigley
Attorney General

Doug Goehring
Agriculture Commissioner

Monday, December 18, 2023

Governor's Conference Room or Microsoft Teams – 1:00 pm

Meeting Coordinators:

Karen Tyler, Interim Executive Director

Reice Haase, Deputy Executive Director

Brenna Jessen, Grant Program Specialist and Recording Secretary

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Or call in (audio only)

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I. Office of the Industrial Commission – Karen Tyler

- A. **Consideration of November 28, 2023 meeting minutes** (Attachment 1)
- B. Other Office of the Industrial Commission Business

(approximately 1:05)

II. North Dakota Housing Finance Agency – David Flohr, Kayla Axtman

- A. Report on 2023 Housing Finance Agency and Housing Incentive Fund Financial Audits – Mindy Piatz, Brady Martz (Attachment 2)
- B. Report on 2023F Bond Issue Sale Results – Kayla Axtman (Attachment 3)
- C. **Consideration of 2024 General Authorizing Resolution** – Kayla Axtman (Attachment 4)
- D. **Consideration of Ginnie Mae Signature Authorization Form 11702 Resolution** – Kayla Axtman (Attachment 5)

(approximately 1:30 pm)

II. North Dakota Oil and Gas Research Council – Reice Haase

- A. Presentation of Oil and Gas Research Council Project Management and Financial Report (Attachment 6)
- B. **Consideration of Grant Round 59 awards:**
 - i. G-059-B: "IPIPE 3.0" – EERC; Principal Investigator: Darren Schmidt, PE; Project Duration: 2 years; Total Project Cost: \$6,000,000; Request for: \$3,000,000 (Attachment 7)

- C. **Consideration of Contract Amendment:**
 - i. G-055-110: "Well Site Thief Hatch Methane Detectors" – Blue Rock Solutions; Principal Investigator: Tory Vareberg, PE; Extend project duration by 6 months to July 1, 2024; Request for \$170,000 in additional funding (from \$266,000 to \$436,000) (Attachment 8)
- D. **Consideration of updates to Oil and Gas Research Program Policy: Addition of Clean Natural Gas Capture and Emissions Reduction Program** (Attachment 9)
- E. Other Oil and Gas Research Council business

(approximately 1:50 pm)

III. Department of Mineral Resources – Lynn Helms, Ed Murphy, Clint Boyd

- A. Presentation of Geological Survey Quarterly Report – Ed Murphy and Clint Boyd (Attachment 10)
- B. **Consideration of the following cases:**
 - i. **Order 32814 in Case 30204** regarding an application of Hess Bakken Investments II, LLC for an overlapping 3,200-acre spacing unit in McKenzie County, ND (Attachment 12)
 - ii. **Order 32874 in Case 30264** regarding North Dakota Industrial Commission, Complainant, v. Freedom Energy Operating LLC (Attachment 13)
 - iii. **Order 32946 in Case 30334** regarding an application of Foundation Energy Management, LLC for an order allowing the 20002 FV-P Agate "B" #1 well (File No. 15047) on a 640-acre spacing unit in the Bicentennial-Birdbear Pool described as Section 34, T.144N., R.103W., Golden Valley County, ND, to be recompleted with the curve build section open hole through the Bakken Pool as an exception to Commission Order Nos. 29703 and 32389 (Attachment 14)
 - iv. **Order 32947 in Case 30335** regarding an application of Foundation Energy Management, LLC for an order allowing the 9210 JV-P Barkland #2H well (File No. 15762) on a 640-acre spacing unit in the Beaver Creek-Birdbear Pool described as the E/2 of Section 36, T143N., R.103W. and the E/2 of Section 1, T.142N., R.103W., Golden Valley County, ND, to be recompleted with the curve build section open hole through the Bakken Pool as an exception to Commission Order Nos. 29703 and 32390 (Attachment 15)
 - v. **Order 32948 in Case 30336** regarding an application of Phoenix Operating LLC for a 1,920-acre spacing unit in Williams County, ND,

and to authorize 5 horizontal wells to be drilled on such unit
(Attachment 16)

C. Consideration of 2024 Oil and Gas Division Hearing Schedule

(Attachment 17)

D. Other Department of Mineral Resources business

(approximately 3:00 pm)

III. North Dakota Transmission Authority – Claire Vigesaa, Reice Haase

A. Presentation of Electric Transmission Capacity Study Update

(Attachment 18)

B. Consideration of BIL 40101(d) Grid Resilience sub-awards:

- i. IJJA-01-C: "Converting Overhead Crossings to Underground Across Federal and State Highways" – Capital Electric Cooperative; Project Duration: 14 months; Total Project Cost: \$505,890; Recommended Funding: \$321,930 (Attachment 19a)
- ii. IJJA-01-D: "Next-Generation Grid Resiliency" – Otter Tail Power Company; Project Duration: 2 years; Total Project Cost: \$11,177,647; Recommended Funding: \$4,432,088 (Attachment 19b)
- iii. IJJA-01-L: "Electronic SCADA Recloser Installation" – Northern Plains Electric Cooperative; Project Duration: 10 months; Total Project Cost: \$879,000; Recommended Funding: \$586,000 (Attachment 19c)
- iv. IJJA-01-G: "Capacitor Banks, Communications, SCADA Control" – McKenzie Electric Cooperative; Project Duration: 2 years; Total Project Cost: \$8,100,000; Recommended Funding: \$2,843,075 (Attachment 19d)

C. Consideration of Concept Paper for Grid Resilience and Innovation Partnerships (GRIP) Funding (Attachment 20)

D. Other Transmission Authority business

(approximately 3:20)

IV. North Dakota Public Finance Authority – DeAnn Ament

A. Consideration of approval for the following loan applications:

- i. **Central Plains Water District – Drinking Water - \$9,714,000**
(Attachment 22)
- ii. **South Central Regional Water District – Drinking Water - \$2,497,000** (Attachment 23)

B. Presentation of a memo of State Revolving Fund loans approved by Advisory Committee:

- i. Buffalo – Clean Water - \$1,330,000 (Attachment 24)
- C. Other Public Finance Authority business

(approximately 3:40 pm)

V. Industrial Commission Legal Update* – Phil Axt, Matt Sagsveen, Lynn Helms, Ryan Norrell, John Reiten

- A. Litigation Update
 - i. Northwest Landowners v. NDIC – Phil Axt
 - ii. NDIC v. DOI Quarterly Federal Lease Sales – Lynn Helms
- B. Federal Regulatory Update
 - i. BLM Resource Management Plan – Lynn Helms
 - ii. EPA Methane Rules – Lynn Helms
 - iii. BLM Venting and Flaring – Lynn Helms
 - iv. DAPL DEIS – Ryan Norrell, John Reiten
- C. Other Industrial Commission Legal Updates

* Possible Executive Session under N.D.C.C. 44-04-19.1(9) & 44-04-19.2 for attorney consultation

(approximately 4:00 pm)

VI. Bank of North Dakota – Todd Steinwand, Kelvin Hullet

- A. Report on BND DEAL Program Guideline Amendments – Kelvin Hullet (Attachment 25)
- B. Presentation of Non-Confidential Meeting Minutes:
 - i. Finance and Credit Committee October 18, 2023 Meeting Minutes (Attachment 26)
 - ii. Audit and Risk Committee October 19, 2023 Meeting Minutes (Attachment 27)
 - iii. Advisory Board October 19, 2023 Meeting Minutes (Attachment 28)
- C. Other Bank of North Dakota Business

**Meeting Closed to the Public for Executive Session Pursuant to NDCC
6-09-35, 44-04-18.4, 44-04-19.1 and 44-04-19.2**

(approximately 4:15 pm)

VII. Bank of North Dakota Executive Session – Todd Steinwand, Craig Hanson

- A. **Consideration of one loan application** – Craig Hanson (Confidential Attachment 29)
- B. Presentation of Confidential Meeting Minutes:
 - i. Finance and Credit October 18, 2023 Meeting Minutes (Confidential Attachment 30)

- ii. Audit and Risk October 19, 2023 Meeting Minutes
(Confidential Attachment 31)
- iii. Advisory Board October 19, 2023 Meeting Minutes
(Confidential Attachment 32)

(approximately 4:30 pm)

VIII. Attorney Consultation

- A. Changes to the Renewable Energy Standard and the Newly Created
Carbon Free Standard under Minn. Stat. § 216B.1691

Meeting Returns to Public Session

IX. Formal actions taken in open session

(approximately 5:00 pm)

X. Adjournment

Next Meeting – January 24, 2024, 1:00 pm
Governor’s Conference Room, Bismarck, ND

Minutes of a Meeting of the Industrial Commission of North Dakota

Held on November 28, 2023 beginning at 9:00 a.m.

Governor's Conference Room – State Capitol

Present: Governor Doug Burgum, Chairman
Attorney General Drew H. Wrigley
Agriculture Commissioner Doug Goehring

Also Present: This meeting was open through Microsoft Teams so not all attendees are known.
Agency representatives joined various portions of the meeting.

Governor Burgum called the meeting of the Industrial Commission to order at approximately 9:05 a.m.

BANK OF NORTH DAKOTA

Mr. Jared Mack with Eide Bailly gave a presentation of the following Audits for Year Ending June 30, 2023:

- i. Ag PACE Fund
- ii. PACE Fund
- iii. Medical Facility Infrastructure Loan Fund
- iv. Rebuilders Loan Program
- v. Addiction Counselors Internship Loan Program
- vi. Infrastructure Revolving Loan Fund
- vii. School Construction Revolving Loan Fund
- viii. COVID-19 PACE Recovery Program
- ix. Innovation Technology Loan Fund (LIFT)
- x. North Dakota Student Loan Trust Fund
- xi. Clean Sustainable Energy Authority (CSEA)
- xii. Water Infrastructure Revolving Loan Fund
- xiii. Beginning Farmer Revolving Loan Fund

All Funds and Programs mentioned above received clean audits with no findings, aside from the Ag PACE fund. For the Ag PACE Fund, there was a finding of improper recording of gross transfers in and out of the fund resulting from one transaction. Bank management agreed with the finding and recommendation. Bank management made the adjustment and has put the recommended controls in place. The fund received a clean opinion.

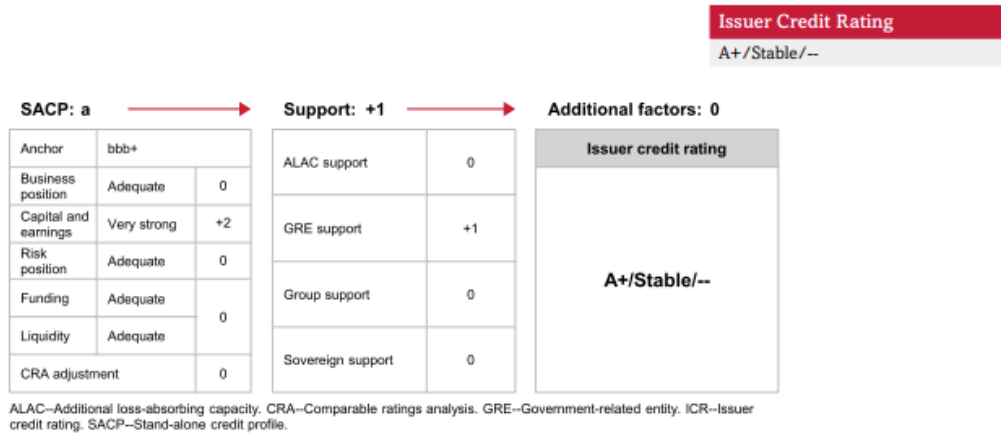
Mr. Todd Steinwand presented the following Non-Confidential Meeting Minutes for the Commission members review:

- i. Finance and Credit Committee September 27, 2023 Meeting Minutes
- ii. Advisory Board September 27, 2023 Meeting Minutes

Mr. Steinwand and Mr. Rob Pfennig presented a Report of the Bank of North Dakota Standard and Poor's Credit Rating which remained at A+/Stable.

Bank of North Dakota

Rating Score Snapshot



Key strengths highlighted:

- Very strong risk-adjusted capital
- Stable ownership by the State of North Dakota since 1919
- Strong credit quality and conservative management

Key risks highlighted:

- Geographic concentration in North Dakota
- Direct and indirect lending exposure to the cyclical energy and agriculture sectors
- Subject to annual capital transfers to North Dakota

Bank of North Dakota is the only remaining state-owned bank in the continental U.S and has one of the highest risk-adjusted capital (RAC) ratios for rated U.S. Banks. While BND has higher nonperforming assets (NPAs) than peers, these rarely translate to high credit losses, and they maintain a robust loan loss reserve.

It was moved by Attorney General Wrigley and seconded by Commissioner Goehring that under the authority of North Dakota Century Code Sections 6-09-35, 44-04-18.4, 44-04-19.1, 44-04-19.2, the Industrial Commission enter into executive session for the purposes Bank of North Dakota confidential business and to consider Clean Sustainable Energy Authority confidentiality requests.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

The Commission met in executive session regarding Bank of North Dakota business pursuant to N.D.C.C. 6-09-35 to consider those items listed on the agenda under Bank of North Dakota confidential business. Only Commission members, their staff, Commission staff, and BND staff participated in that executive session.

After the Bank of North Dakota executive session, the Commission met in executive session to consider Clean Sustainable Energy Authority confidentiality requests. Only Commission members, their staff, and Commission staff participated in that executive session.

Any formal action taken by the Commission occurs after it reconvenes in open session.

Governor Burgum reminded the Commission members and those present in the executive sessions that the discussions must be limited to the announced purposes which is anticipated to last approximately 30 minutes.

The executive session began at approximately 9:26 a.m.

The Meeting Closed to the Public for Executive Session Pursuant to NDCC 6-09-35, 44-04-18.4, 44-04-19.1, and 44-04-19.2

BANK OF NORTH DAKOTA

Industrial Commission Members Present

Governor Doug Burgum
Attorney General Drew H. Wrigley
Agriculture Commissioner Doug Goehring

BND Members Present

Todd Steinwand
Kirby Evanger
Rob Pfennig

Others in Attendance

| | |
|----------------|------------------------------|
| Ryan Norrell | Governor's Office |
| Zach Greenburg | Governor's Office |
| Dutch Bialke | Ag Commissioner's Office |
| Karen Tyler | Industrial Commission Office |
| Reice Haase | Industrial Commission Office |
| Brenna Jessen | Industrial Commission Office |

CLEAN SUSTAINABLE ENERGY AUTHORITY

Industrial Commission Members Present

Governor Doug Burgum
Attorney General Drew H. Wrigley
Agriculture Commissioner Doug Goehring

Others in Attendance

| | |
|--------------|------------------------------|
| Ryan Norrell | Governor's Office |
| John Reiten | Governor's Office |
| Dutch Bialke | Ag Commissioner's Office |
| Karen Tyler | Industrial Commission Office |

Reice Haase
Brenna Jessen

Industrial Commission Office
Industrial Commission Office

The executive ended at 10:05 a.m. and the Commission reconvened in open session at 10:08 a.m.

During the Bank of North Dakota executive session, the Commission discussed confidential business pursuant to NDCC 6-09-35. No formal action was taken during the Bank of North Dakota executive session.

During the Clean Sustainable Energy Authority executive session, the Commission considered confidentiality requests.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission accept the recommendation of its Deputy Director and pursuant to North Dakota Century Code sections 54-63.1-06, 44-04-18.4 and 44-04-19.2 grant the confidentiality requests and determine that the information described in the confidentiality requests consists of trade secrets and/or financial or proprietary information and is confidential.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

HOUSING FINANCE AGENCY

Mr. Victor Chaing and Mr. Ansel Caine, representing Caine Mitter and Associates, presented the NDHFA Bond Trust Fund Performance Report. NDHFA is one of a few state HFAs that has been able to consistently enable lenders to offer first time homebuyers lower mortgage rates. This has been achieved through the management of its existing mortgage portfolio and the use of bond financing techniques that minimize the cost of capital. They have provided more than \$110 million of down payment and closing cost assistance over 20 years, enabling borrowers to purchase their first home, and their penetration of the market is consistently among the highest of State HFAs. NDHFA maintains a program fund balance that is close to the median for all state HFAs reflecting financial strength without accumulating excessive wealth. NDHFA's single family program is rated Aa1 by Moody's Investor Service, and only six HFAs with whole loan programs have higher ratings.

NDHFA Highlights:

- Provides mortgage rates currently 1.00% lower than average rates in the State
- Provided over \$11 million on down payment and closing cost assistance to borrowers in 2022
- Collaborates with 41 State and nine national participating lenders
- Services mortgage loans in-house – only fourteen HFAs service their own mortgages
- Services among the best performing HFA mortgage portfolios
- Consistently high mortgage market penetration among HFAs
- Single family program rated Aa1 by Moody's Investor Service
- Ability to use full range of bond financing techniques including variable rate bonds and swaps
- Funds mortgage loans through both bond financing and whole loans and secondary market sales of GNMA mortgage backed securities. Only five HFAs are positioned to provide both financing vehicles

Ms. Jennifer Henderson presented the Multi-family Programs Award Selection Report. There were 12 development applications received from Mandan, Bismarck, Cavalier, West Fargo, Minot, Jamestown, Rolla, Fargo, and Bismarck, with half being new construction and half being rehabilitation. The available totals prior to the application round were as follows: LIHTC 9 - \$3,728,172, HIF - \$12,097,993.51, HOME - \$2,669,950.01, and HTF - \$2,852,413.21. With the total requests from the 12 applications the amount oversubscribed is as follows: LIHTC 9 - \$3,940,520, HIF - (\$4,397,993.51), HOME - \$3,171,066, HTF - \$2,801,939.

SUCCESSFUL APPLICATION SUMMARY

The Gardenette Phase 1, Phase 2, and Phase 3

Project Location: Multiple Buildings: Gardenette Drive, Jamestown

The Gardenette is a multiphase acquisition rehab project proposing to acquire and rehab an existing 168-unit development. The development is currently comprised of 42 single-story, slab-on-grade fourplexes. All existing 168 units are one bedroom. When construction is complete the rehabilitated development will host a mix of unit sizes to accommodate the variety of household sizes.

The project is divided into phases to maximize funding sources. Each phase is a separate application and must compete on its own. In phase 1, A total of 40 units, 8 three-bedroom units and rehab 32 one-bedroom units. In phase 2, rehabilitation of 40 one-bedroom units. And in phase 3, 50 one-bedroom and 20 two-bedroom units to round out the entire development and ensure we're meeting the housing needs in Jamestown. In total 150 units down from 168.

Total Development costs include \$13 million for phase 1, \$12.8 million phase 2, and \$22.6 million for phase 3 for a total of \$58 million. Stride Development PBC, St. Paul, MN, is the project developer who will be partnering with Community Works ND (CWND) a non-profit partner who will be part of the final ownership entity. CWND will provide property management and will be contracting with a community service provider to provide tenant support coordination services to the residents.

All three applications were selected for funding. Phase 1 to receive \$1,100,000 of 9% LIHTCs. Phase 2 to receive \$1,082,900 of 9% LIHTCs, and phase 3 to receive \$1,032,000 of 4% LIHTCs, \$3,000,000 in HIF, and will require a tax exempt bond issuance which is still to be determined.

Avalon At Mandan

Project Location: 1300 Collins Avenue, Mandan.

Avalon at Mandan is the new construction of a 25-unit two-story rowhome project, all of the units have 3-bedroom floor plans to accommodate households with children. The project is an infill development and is located in close proximity to both an elementary and middle school, and is not far from the new high school development. The project is also walking distance from a universal park. Project amenities include onsite leasing office and community room space. The project will be partnering with a local service provider to provide tenant support coordination onsite. Total development costs are estimated at \$9.4 million.

The project is a joint venture with Domera Development, LLC, a Georgia LLC, and CUBIT Development Group, LLC. Both organizations, while being new to North Dakota, have experience developing an downing affordable housing projects. Property Management will be provided by Bedrock Property Management, LLC. The application was awarded \$975,000 in 9% LIHTCs.

NEX Senior

Property Location: 1728 42nd Street South, Fargo

The NEX Senior is a 40-unit, new construction senior community located in the West Acres neighborhood. The project is comprised of 1- and 2- bedroom units as well as onsite management and integrated supportive services. Onsite amenities include a fitness center, community room, in-unit laundry, resident storage, and first floor garage parking. This infill development is in close proximity to pharmacy, grocery, and public transit.

The property will be providing tenant support coordination through a local service provider. The total development costs are estimated to be \$14.7 million. This project will be developed and owned by Commonwealth Development with property management contracted with MetroPlains Management. The application was awarded \$1,100,000 in 9% LIHTCs, \$1,558,248 in HOME, and \$2,852,413.21 in HTF funding.

Dakota Apartments- CCI Apartments

Property Location: 301 Boundary Rd W. Cavalier

The Dakota Apartments is a new construction of a 2-story, eight-unit apartment building located in Cavalier. The project proposed will replace an 8-unit complex that was lost to fire several years ago. All units will be 2- bedroom, 2-bathroom, with in unit laundry, and detached garages. The project has an estimated total development cost of \$3,075,000.

The project is being developed by Red River Community Housing Development Organization (CHDO) a nonprofit organization that is closely related to the Red River Regional Council and has been inactive for several years. The final ownership will be a local investor group. Property management is yet to be determined. The application was awarded \$1,700,000 in HIF funding.

Additional Awards

During the application round, the agency received three applications for additional funding from previously selected applications, all three projects were selected for funding. Projects that submit an award for additional funding are competitively selected based on score, the amount of the request, and available funds.

DEPARTMENT OF MINERAL RESOURCES

Dr. Lynn Helms and Mr. Mark Bohrer presented for consideration of approval the following cases:

- i. **Order 33073 for Case 30460** regarding the confiscation of all production-related equipment and salable oil at the Carpentier 1-16 well (File No. 9965), NENE Section 16, T.163N., R.91W., Portal Field, Burke County, ND.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission approves Order 33073 issued in Case 30460 approving the confiscation of all production-related equipment and salable oil at the Carpentier 1-16 well (File No. 9965), NENE Section 16, T.163N., R.91W., Portal Field, Burke County, ND, operated by WW Oilfield Services, or any working interest owner, pursuant to NDCC §§ 38-08-04 and 38-08-04.9.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

- ii. **Order 33074 for Case 30461** regarding the confiscation of all production-related equipment and salable oil at the BP NORTH HAAS 1-4-20-163-82 well (File No. 30616) SENE Section 20, T.163N., R.82W., North Haas Field, Bottineau, ND.
- iii. **Order 33075 for Case 30462** regarding the confiscation of all production-related equipment and salable oil at the BP NORTH HAAS 4-1-20-163-82 well (File No. 30638), NESE Section 20, T.163N., R.82W., North Haas Field, Bottineau County, ND.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission approves Order 33074 issued in Case 30461 approving the confiscation of all production-related equipment and salable oil at the BP NORTH HAAS 1-4-20-163-82 well (File No. 30616), SENE Section 20, T.163N., R.82W., North Haas Field, Bottineau County, ND, operated by Noah Energy Inc., or any working interest owner, pursuant to NDCC §§ 38-08-04 and 38-08-04.9, and that the Industrial Commission approves Order 33075 issued in Case 30462 approving the confiscation of all production-related equipment and salable oil at the BP NORTH HAAS 4-1-20-163-82 well (File No. 30638), NESE Section 20, T.163N., R.82W., North Haas Field, Bottineau County, ND, operated by Noah Energy Inc., or any working interest owner, pursuant to NDCC §§ 38-08-04 and 38-08-04.9.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

- iv. **Order 32941 for Case 30329** regarding amendments to the “General Rules and Regulations for the Conservation of Crude Oil and Natural Gas” codified as Article 43-02 North Dakota Administrative Code.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission approves Order 32941 issued in Case 30329 authorizing amendments to Article 43-02 "Mineral Exploration and Development" codified as Chapters 43-02-03 (Oil and Gas Conservation), 43-02-08 (Stripper Well and Stripper Well Property Determination), 43-02-10 (Certification of Secondary and Tertiary Recovery Projects-Determination of Incremental Production), and 43-02-15 (Certification of Restimulation Wells) of the North Dakota Administrative Code.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

STATE ENERGY RESEARCH CENTER

Mr. Tom Erickson and Mr. Tyler Hamman gave a presentation of the State Energy Research Center Annual Report.

In 2023, North Dakota’s 68th Legislative Assembly passed Senate Bill SB2161 in continuing support of SERC efforts. This bill reaffirms SERC’s mandate, changes the end date of SERC activities, and raises the biennium funding limit. Funding for SERC activities, up to \$7.5 million per biennium, is provided from a small portion of the oil and gas production and extraction taxes. Currently, SERC funding has been directed by the Legislature through June 30, 2029, and activities will continue according to the scope of work with the North Dakota Industrial Commission (NDIC) through that date.

The past year of SERC activities has resulted in:

- Continuation of several exploratory research projects and activities across all facets of North Dakota energy.
- An increase in the number of new innovations and inventions.
- Supporting multiple federal proposals with a strong potential impact to the state.
- Initiating an effort to coordinate the development of a grid resiliency plan for North Dakota.
- Engaging the public and technical audiences by attending conferences and presenting on energy-related topics.
- Thirteen North Dakota students completing the Energy Hawks Program.
- Collaboration across the state's institutions of higher education.

Because SERC funding had all been allocated during the previous year, no new major fundamental research concepts were started this year. The 17 projects that were ongoing at the end of last year continued, with 13 of them being completed. Four projects remain ongoing and are anticipated to wrap up this year. New research projects will begin late summer 2023.

NDIC approved the use of SERC funds this year to support proposal development in response to three federal funding opportunities, each with a strong potential to impact North Dakota. Proposals were prepared and submitted on time. In addition, SERC funding was used to support an effort for developing a North Dakota electric grid resiliency plan to identify, evaluate, and address risks associated with potentially widespread and/or long-term electrical power outages. This project is ongoing at the time of this reporting.

Throughout the past year, EERC staff took advantage of opportunities to attend and present at conferences and meetings regarding energy-related topics. One such opportunity was speaking at the Energy Progress & Innovation Conference (EPIC) as part of promoting energy education in the state. This conference was held January 24–26, 2023, in Bismarck, North Dakota.

During the summer of 2022, 13 students, including one from North Dakota State University, one from Bismarck State college, one from Minot State University, and ten from UND, participated in the Energy Hawks Program. Three concept research projects were developed and presented by the students to EERC research staff and are summarized in this report.

The 2023 Energy Hawks Program commenced in May 2023 and includes 14 students: 13 from UND and one from Minot State University. The 2023 program includes an in-person tour of western North Dakota, a team-building workshop at the EERC, and on-site and hybrid on-site/virtual participation at the EERC. The 2023 program is scheduled to wrap up in August and, similar to previous years, the Energy Hawks will present research concept papers.

The overall efforts of SERC will continue over the coming year, beginning with a new round of fundamental research projects anticipated to start late summer 2023. As appropriate, results will be presented to NDIC, the Energy Development and Transmission Committee, and the next North Dakota Legislative Assembly.

Mr. Haase presented for consideration of approval funding under Contract SERC 2019-01 Task 2 – Provide Prompt Expertise for North Dakota: CO₂ Enhanced Oil Recovery Incremental Oil Production Forecast, \$135,000.

The memo reads as follows:

“During the 2023-2025 biennium, \$750,000 is available for the Commission to contract for on-demand studies under Contract SERC 2019-01 Task 2 – Provide Prompt Expertise for North Dakota. The EERC is requesting the Commission to authorize \$135,000 under Task 2 for a 5-month investigation to forecast incremental oil production associated with CO₂ enhanced oil recovery (EOR) in North Dakota’s conventional and unconventional reservoirs.

The forecast will focus on realistic development scenarios in the 2024–2045 timeframe and will include the projected CO₂ supply availability and demand and a prediction of yearly net CO₂ use and incremental oil production across the specified time frame. The proposed effort will build on work that the EERC performed in 2014 and 2019 and the IHS 2016 report. CO₂ EOR production forecasts for the Bakken petroleum system will leverage results and findings from pilot-scale EOR efforts and the body of work produced through the EERC-led Bakken Production and Optimization Program (BPOP). The EERC will work with the North Dakota tax department and/or an experienced tax advisor consultant to forecast associated tax revenue flow and estimate the value of a potential extraction tax break for incremental production associated with CO₂ EOR. A final report will include a discussion of results, what assumptions and inputs were used, and what future activities could reduce the uncertainty of the forecasts. The 5-month investigation is estimated to require up to \$135,000 and is proposed to commence in January 2024.”

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission authorizes \$135,000 from Contract SERC 2019-01 Task 2 – Provide Prompt Expertise for North Dakota for the purpose of completing a forecast of incremental oil production associated with CO₂ enhanced oil recovery in North Dakota during the 2024-2045 timeframe.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

NORTH DAKOTA RENEWABLE ENERGY PROGRAM

Mr. Reice Haase gave a presentation of the Renewable Energy Program Project Management and Financial Report. The Fund currently has \$994,658.51 uncommitted dollars, and \$6,658,140.70 committed. There has been a total of 70 cumulative projects with 18 of those projects still being active. There has been a total of \$23.5 million granted with a project value of \$154.7 million.

Mr. Haase presented for consideration of approval the following Renewable Energy Program Grant Round 52 applications:

- i. **R-052-A** – Smart Holistic Zero Waste Utilization Paradigm (SHOWUP); Submitted by Surjit Gupta, UND; Total Project Costs: \$3,780,360; Recommended Funding: \$500,000. Summary: This project is to recycle used wind turbine blades by three methods: gasification, milled into 3D-printing feedstock, and thermoset polymers.

- ii. **R-052-B** – Prairie Horizon Carbon Management Hub; Submitted by Kevin Connors, EERC; Total Project Costs: \$3,225,000; Recommended Funding: \$100,000. Summary: Development of CO₂ storage hub for renewable diesel and hydrogen production facility; Up to 5 m tons/year captured.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission approves the recommendation of the Renewable Energy Council, authorizing \$600,000 in funding from the Renewable Energy Fund, and authorizing the Office of the Industrial Commission to enter into contracts for the following Renewable Energy Program projects:

R-052-A – Smart Holistic Zero Waste Utilization Paradigm (SHOWUP); Submitted by Surojit Gupta, UND; Total Project Costs: \$3,780,360; Funding Amount: \$500,000

R-052-B – Prairie Horizon Carbon Management Hub; Submitted by Kevin Connors, EERC; Total Project Costs: \$3,225,000; Funding Amount: \$100,000

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

NORTH DAKOTA LIGNITE RESEARCH, DEVELOPMENT AND MARKETING PROGRAM

Mr. Haase gave a presentation of the Lignite Research, Development and Marketing Program Project Management and Financial Report. The Fund currently has \$1,878,160.85 uncommitted dollars, and \$29,782,659.56 committed. There has been a total of 254 cumulative projects with 28 of those projects still being active. There has been a total of \$134.8 million granted with a project value of \$2.7 billion.

Mr. Mike Holmes presented for consideration of approval the following Lignite Research, Development and Marketing Program Grant Round 103 application:

- i. **LRC-103A:** High-Value Products from Produced Water Mineralization via Reaction with Anthropogenic CO₂; Submitted by Semplastics EHC LLC; Total Project Costs: \$356,494; Recommended Funding: \$100,000. Summary: The objective is to develop and demonstrate a cost-effective method to mineralize sodium, lithium, and other elements in the brine while capturing and storing CO₂. The carbonates would be used to produce samples of building products such as panels, coated mixed carbonates in polypropylene, and sodium carbonate or other commercially useful sodium compounds.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission approves the recommendation of the Lignite Research Council, authorizing \$100,000 in funding from the Lignite Research Fund, and authorizing the Office of the Industrial Commission to enter into a contract for the following project:

LRC-103A: High-Value Products from Produced Water Mineralization via Reaction with Anthropogenic CO₂; Submitted by Semplastics EHC LLC; Total Project Costs: \$356,494; Funding Amount: \$100,000

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

Mr. Andrew Sorbo, Vice President of Strategic Initiatives at Minnkota Power Cooperative, presented a Report on the completion of projects FY19-88-220 and FY22-99-244 related to carbon capture at the Milton R. Young station.

Capture

MHIA/Kiewit FEED Study

- Working on the FEED Study with MHIA and Kiewit
 - Began February 1, 2023
 - To be Complete April 1, 2024
 - Self-Funded (no federal/state assistance)
- Not a standard FEED Study
 - Are now in the design freeze/procurement stage with the Consortium
 - Ends with “lump-sum turn-key” price (not an estimated cost)
 - EPC contract being negotiated in parallel with the FEED work

Storage

Carbon Storage

- Largest fully-permitted CO₂ storage facility in the United States
- Second storage facility permit received in October 2023
- Strong local support from landowners, county and community

Storage Facilities by the Numbers

- 17,000 acres of seismic survey
- 20,000+ feet drilled
 - 2 stratigraphic test wells
- 2,500+ feet of core rock recovered
- East Site- 97% Landowner consent
 - Total about 19,000 acres
 - Broom Creek and Deadwood
- West site- 80.33% Landowner consent
 - Total about 29,000 acres
 - Broom Creek
- A combined capacity to store 222 million metric tons of CO₂ over 20 years.

Finance

TC Energy Corporation

- Project Commercialization Lead – Strategic Partner
- Market cap = about \$52 billion
- Global HQ in Calgary, AB (US HQ in Houston, TX)
- Total Assets = \$114 Billion
- Rated Baa1 and BBB+ by Moody’s Investor Services, Inc. and Standard & Poor’s Rating Services, respectively

- About 57,900 miles of Natural Gas (NG) pipelines
 - Delivers 25% of N. America’s NG demand
- About 3,000 miles of liquid pipelines
- 7 power generation facilities (about 4,200 MW)
- TC Energy Hub-Scale CCS Projects
- Initiated the “Alberta Carbon Grid”, TCE’s goal to transport and store up to 20 million tons of CO₂ per year through hubs across Alberta, serving diverse sectors and customers

State and Federal Funding Opportunities

- 2022 – Inflation Reduction Act (IRA)
 - Increased 45Q tax credit from \$50/ton to \$85/ton for CO₂ storage
 - Necessary, due to supply chain and inflationary challenges, and associated price contingency
- 2021 – Bipartisan Infrastructure Law (BIL)
 - DOE Demonstration Projects Program
 - Recognizes projects require additional risk mitigation
 - Funding Opportunity Announcement
 - February 2023
 - DOE grants of up to \$350M each for two coal-based CCS projects
 - Expected selection in 2023
- Clean Sustainable Energy Authority (CSEA) Loan (State of North Dakota)
 - \$100M in 2021-2023 Biennium
 - \$150M in 2023-2025 Biennium

Carbon Capture in North Dakota

- Ideal geology
- State Leadership, policy, legal framework and support of CCUS
 - Planning for carbon capture/EOR for 15 years
 - ND has Class VI storage permitting primacy (MRV still through EPA)
 - LRC/NDIC Integral to advance position achieved
- Supportive Local Community
- Expanded 45Q makes geologic storage without oil production feasible
 - No exposure to crude oil production and price risk
 - Unlock future EOR potential
- Supportive Board of Directors and Leadership

What’s Next?

- Complete the FEED Study
- Complete the EPC Contract
- Complete West Site MRV
- Achieve the DOE grant
- Assemble the information and strategy to support a financial investment decision by end of Q2 2024.

OFFICE OF THE INDUSTRIAL COMMISSION

Ms. Karen Tyler presented for consideration of approval the October 31, 2023 meeting minutes.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission approve the October 31, 2023 meeting minutes.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

Mr. Haase presented for consideration of approval the 2024 Industrial Commission Meeting Schedule.

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission approve the following 2024 Industrial Commission Meeting Schedule:

| Primary: | First Alternate: |
|--|--|
| Thursday, January 25th, 2024 | N/A |
| Wednesday, February 28th, 2024 | N/A |
| Tuesday, March 26th, 2024 | Thursday, March 28th, 2024 |
| Tuesday, April 30th, 2024 | Thursday, April 25th, 2024 |
| Tuesday, May 28th, 2024 | Thursday, May 30th, 2024 |
| Tuesday, June 25th, 2024 | Thursday, June 27th, 2024 |
| Tuesday, July 30th, 2024 | Thursday, July 25th, 2024 |
| Tuesday, August 27th, 2024 | Thursday, August 29th, 2024 |
| Tuesday, September 24th, 2024 | Thursday, September 26th, 2024 |
| Tuesday, October 29th, 2024 | Thursday, October 31st, 2024 |
| Tuesday, November 26th, 2024 | Thursday, November 28th, 2024 |
| Tuesday, December 17th, 2024 | Thursday, December 19th, 2024 |

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

Ms. Tyler presented for consideration of approval a Compensation Recommendation for Mr. Vance Taylor, North Dakota Mill.

The memo reads as follows:

“Fiscal Year 2023 was a record year for the North Dakota Mill. Profits were \$17,238,265 which was an increase from the prior year's profits of 14,677,789 and an all-time record high for the Mill.

When Vance Taylor was hired by the Industrial Commission his compensation package included an annual bonus opportunity based on performance, up to 30% of base salary. Thirty percent of Vance's current base salary of \$358,378.02 is \$107,513.

The Commission has previously determined that the 30% bonus payment is to be determined with two components: 20% of the bonus will be based on what had been distributed to Mill employees under the Mill's gain sharing plan. 10% of the bonus is based on other criteria, with the priority consideration being the achievement of goals established in the Mill Strategic Plan.

The gain sharing payout for FY 2023 for Mill employees was 27.78% as compared to 22.47% in 2022. The maximum bonus amount under this component of the compensation plan is \$71,675. All four gain sharing criteria goals were met, and profits as previously stated were a new record for the Mill. Based on the gain sharing payout portion, it is my recommendation that Vance receive the full amount applicable under the 20% component.

The remaining 10% of the 30% bonus potential is \$35,837.80. For this component I recommend \$30,462. Vance and the Mill management team achieved numerous goals that were established by the Commission in the Mill's 2023 strategic plan including successful recognition and celebration of the Mill's 100-year anniversary, re-certification under the Food Safety Systems Certification 3-year audit, the addition of new significant customers, and growth in the conversion margin of 16.8%. Leadership succession planning, acquisition or partnership opportunities, and implementation of 4-shift operations are among the established goals toward which progress has been made but which will necessitate additional focus going forward.

Vance continues to do an excellent job leading the North Dakota Mill team in the operation of an enterprise that delivers exceptional products and services. **For the 2023 fiscal year I am recommending a bonus totaling \$102,137.00."**

It was moved by Commissioner Goehring and seconded by Attorney General Wrigley that the Industrial Commission accept the recommendation of the Interim Executive Director and approve a bonus for the North Dakota Mill President in accordance with the applicable contract and policy, in the amount of \$102,137.00, calculated based on 100% of the gain sharing component and 85% of the strategic plan component.

On a roll call vote, Governor Burgum, Attorney General Wrigley, and Commissioner Goehring voted aye. The motion carried unanimously.

With no further business, Governor Burgum adjourned the meeting of the Industrial Commission at 12:56 p.m.

North Dakota Industrial Commission

Brenna Jessen, Recording Secretary

Reice Haase, Deputy Executive Director

Karen Tyler, Interim Executive Director

**NORTH DAKOTA HOUSING FINANCE AGENCY
BISMARCK, NORTH DAKOTA**

AUDITED FINANCIAL STATEMENTS

FOR THE YEAR ENDED JUNE 30, 2023 AND 2022

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INDEPENDENT AUDITOR'S REPORT

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the business-type activities of the North Dakota Housing Finance Agency, a department of the State of North Dakota, as of and for the years ended June 30, 2023 and 2022, and the related notes to the financial statements, which collectively comprise the North Dakota Housing Finance Agency's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities of the North Dakota Housing Finance Agency, as of June 30, 2023 and 2022, and the respective changes in financial position, cash flows thereof and statement of appropriations for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1 to the financial statements, the financial statements of the North Dakota Housing Finance Agency are intended to present the net position, revenues, expenses and cash flows of only that portion of the financial statement of the State of North Dakota that is attributable to the transactions of the North Dakota Housing Finance Agency. They do not purport to, and do not, present fairly the financial position of the State of North Dakota as of June 30, 2023 and 2022, the changes in its financial position or its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the North Dakota Housing Finance Agency, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the North Dakota Housing Finance Agency's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the North Dakota Housing Finance Agency's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the North Dakota Housing Finance Agency's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of employer's share of net pension liability, schedule of employer contributions – pension, schedule of employer's share of net OPEB liability, schedule of employer contributions – OPEB and notes to the required supplementary information be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the North Dakota Housing Finance Agency's basic financial statements. The combining financial statements are presented for purposes of additional analysis and are not a required part of the basic financial statements. The accompanying supplementary information as listed in the table of contents is presented for purposes of additional analysis as required by the *Uniform Financial Report Standards* issued by the U.S. Department of Housing and Urban Development, Office of the Inspector General, and is not a required part of the financial statements. The schedule of expenditures of federal awards is presented for purposes of additional analysis as required by Title 2 U.S. *Code of Federal Regulations* (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, and is also not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Combining Statements of Net Position, Combining Statements of Revenues, Expenses and Changes in Fund Net Position, Combining Statements of Cash Flows, Housing and Urban Development Section 8 Financial Data Schedule, Adjusted Net Worth Calculation, Insurance Coverage Schedule, Capital Requirement Calculation, Liquid Asset Requirement Calculation and the Schedule of Expenditures of Federal Awards and related notes, are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 13, 2023, on our consideration of the North Dakota Housing Finance Agency's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the North Dakota Housing Finance Agency's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering North Dakota Housing Finance Agency's internal control over financial reporting and compliance.



**BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA**

October 13, 2023

NORTH DAKOTA HOUSING FINANCE AGENCY
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2023 AND 2022
(In Thousands)

The discussion and analysis of the financial performance of the North Dakota Housing Finance Agency (Agency) that follows is meant to provide additional insight into the Agency's activities for the years ended June 30, 2023 and 2022. Please read it in conjunction with the Agency's financial statements and footnotes, which are presented within this report.

North Dakota Housing Bonds issued by North Dakota Housing Finance Agency are mortgage revenue bonds that are neither a general nor a moral obligation of the state but are a general obligation of the Agency.

Financial Highlights

In FY2023, mortgage loans receivable increased \$247,959 to \$1,576,122. This included \$366,844 of new loans purchased, \$1,354 of Loans sold to FHLB, \$122,948 of repaid principal on mortgage loans and an increase in loan premiums of \$5,417 and increase in mortgage loan loss reserve of \$3.

In FY2022, mortgage loans receivable increased \$104,193 to \$1,328,163. This included \$340,581 of new loans purchased, \$28,880 of Loans securitized into an MBS, \$205,917 of repaid principal on mortgage loans and an increase in loan premiums of \$3,114 and decrease in mortgage loan loss reserve of \$10.

In FY2023, Bonds Payable increased \$120,770 from the FY2022 Bonds Payable to \$1,600,377. This included the issuance of \$240,000 new Mortgage Revenue Bonds, \$5,000 in multifamily Bonds, \$123,540 Bonds being called or maturing and a net decrease in Bond premiums of \$690. See Note 12 in the accompanying Notes to the Financial Statements for more information regarding long term debt.

In FY2022, Bonds Payable increased \$134,400 from the FY2021 Bonds Payable to \$1,479,607. This included the issuance of \$401,300 new Bonds, \$266,540 Bonds being called or maturing and a net decrease in Bond premiums of \$360. See Note 12 in the accompanying Notes to the Financial Statements for more information regarding long term debt.

The Agency did not draw on either the BND or Federal Home Loan Bank lines of credit in FY2023 and FY2022, however both lines remained available to the Agency. The beginning and ending balances in FY2023 and FY2022 were \$0 for both FHLB and BND.

The Agency's FY2023 net position increased \$13,285 to \$232,204 as a result of the year's program operations and financing activities.

The Agency's FY2022 net position increased \$2,008 to \$218,919 as a result of the year's program operations and financing activities.

FY2023 Income Before Transfers of \$13,293 was higher than FY2022 by \$11,263 as a result of increases in investment income due to the rising interest rate environment during the past fiscal year. This primarily affected the MBS investments in the Debt Service Reserve Accounts. Mortgage interest income and Bond interest expense were both up from FY2022 in approximately equal amounts.

NORTH DAKOTA HOUSING FINANCE AGENCY
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2023 AND 2022
(In Thousands)

Operating revenues in FY2023 of \$65,371 were up \$21,005 as a result of higher mortgage and investment income than in the prior year. This was partially offset by a loss on the sale of investments and a slight decrease in fee income. The Agency continues to fund mortgage loans at a fast pace given the rise in mortgage rates and the rates on mortgage revenue bonds over the last year continuing to be competitive in the mortgage market. Overall this has not had a large effect on the funding of mortgage loans, however the Agency has seen a decrease in loan payoffs due to this increase in mortgage rating making refinances less favorable.

Operating revenues in FY2022 of \$44,366 were down \$5,633 as a result of lower mortgage and investment income than in the prior year. In addition, the Agency had a loss on the sale of investments. This was partially offset with slightly higher fee income. The Agency continues to fund mortgage loans at a fast pace. Mortgage rates, along with the interest rate on mortgage revenue bonds, have been rising quickly the past few months. This has not had a large effect on the funding of mortgage loans, however we have seen a decrease in loan payoffs.

Operating expenses for FY2023 of \$52,234 were up \$10,317 from the FY2022 Operating expenses as a result of higher bond interest expense and pension expense. The SRP amortization expense and bond administrative expenses decreased when compared to the prior year.

Operating expenses for FY2022 of \$41,917 were down \$2,379 from the FY2021 Operating expenses as a result of lower bond interest expense, pension expense, SRP amortization expenses and higher bond admin expenses than what was incurred in the prior year. The decrease in Interest Expense was somewhat offset by the increase in Administrative and Operating Expenses.

NORTH DAKOTA HOUSING FINANCE AGENCY
MANAGEMENT'S DISCUSSION AND ANALYSIS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Overview of the Financial Statements

The annual financial report consists of two parts: Management's Discussion and Analysis (this section) and the Basic Financial Statements. The financial statements of the Agency provide accounting information similar to that of many other business entities. The Statement of Net Position summarizes the assets and liabilities, with the difference between the two reported as net position. The Statement of Revenues, Expenses and Changes in Net Position summarizes the Agency's operating performance for the year. The Statement of Cash Flows summarizes the flow of cash through the Agency.

Condensed Statements of Net Position
June 30, 2023 and 2022
(In Thousands)

| | 2023 | 2022 | Change | Percentage |
|---------------------------------------|---------------------|---------------------|-------------------|--------------|
| ASSETS | | | | |
| Unrestricted current assets | \$ 15,824 | \$ 16,792 | \$ (968) | (6) % |
| Restricted current assets | 259,589 | 349,503 | (89,914) | (26) |
| Total current assets | <u>275,413</u> | <u>366,295</u> | <u>(90,882)</u> | <u>(25)</u> |
| Unrestricted noncurrent assets | 7,915 | 7,264 | 651 | 9 |
| Restricted noncurrent assets | 1,600,851 | 1,365,724 | 235,127 | 17 |
| Total noncurrent assets | <u>1,608,766</u> | <u>1,372,988</u> | <u>235,778</u> | <u>17</u> |
| Total assets | <u>\$ 1,884,179</u> | <u>\$ 1,739,283</u> | <u>\$ 144,896</u> | <u>8 %</u> |
| DEFERRED OUTFLOWS OF RESOURCES | | | | |
| Total deferred outflows of resources | <u>\$ 5,732</u> | <u>\$ 3,279</u> | <u>\$ 2,453</u> | <u>75 %</u> |
| LIABILITIES | | | | |
| Current liabilities | \$ 106,464 | \$ 82,509 | \$ 23,955 | 29 % |
| Noncurrent liabilities | 1,532,278 | 1,432,574 | 99,704 | 7 |
| Total liabilities | <u>\$ 1,638,742</u> | <u>\$ 1,515,083</u> | <u>\$ 123,659</u> | <u>8 %</u> |
| DEFERRED INFLOWS OF RESOURCES | | | | |
| Total deferred inflows of resources | <u>\$ 18,965</u> | <u>\$ 8,560</u> | <u>\$ 10,405</u> | <u>122 %</u> |
| NET POSITION | | | | |
| Invested in capital assets | \$ 112 | \$ 117 | \$ (5) | (4) % |
| Restricted for debt service | 217,892 | 201,443 | 16,449 | 8 |
| Unrestricted | 14,200 | 17,359 | (3,159) | (18) |
| Total net position | <u>\$ 232,204</u> | <u>\$ 218,919</u> | <u>\$ 13,285</u> | <u>6 %</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
MANAGEMENT'S DISCUSSION AND ANALYSIS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Statements of Revenues, Expenses and Changes in Net Position
Years Ended June 30, 2023 and 2022
(In Thousands)

| | 2023 | 2022 | Change | Percentage |
|--|-------------------|-------------------|------------------|----------------|
| OPERATING REVENUES | | | | |
| Mortgage interest income | \$ 49,722 | \$ 39,298 | \$ 10,424 | 27 % |
| Investment income | 10,977 | 464 | 10,513 | 2,266 |
| Gain on sale of investment | (176) | (320) | 144 | (45) |
| Fee income | 4,848 | 4,924 | (76) | (2) |
| Total revenues | <u>65,371</u> | <u>44,366</u> | <u>21,005</u> | <u>47 %</u> |
| OPERATING EXPENSES | | | | |
| Interest expense | 39,393 | 29,156 | 10,237 | 35 % |
| Agency grants | 80 | 215 | (135) | (63) |
| Administrative and operating expenses | 11,381 | 11,931 | (550) | (5) |
| Pension expense | 1,092 | 384 | 708 | 184 |
| OPEB expense | 49 | 15 | 34 | - |
| Amortization | 207 | 208 | (1) | - |
| Depreciation | 32 | 8 | 24 | 300 |
| Total expenses | <u>52,234</u> | <u>41,917</u> | <u>10,317</u> | <u>25 %</u> |
| OPERATING INCOME | <u>13,137</u> | <u>2,449</u> | <u>10,688</u> | <u>436 %</u> |
| NONOPERATING REVENUES (EXPENSES) | | | | |
| Federal grants | 22,117 | 15,065 | 7,052 | - |
| Non-federal grants | 113 | 128 | (15) | - |
| Investment income | 43 | (547) | 590 | (108) |
| Federal grants | (22,117) | (15,065) | (7,052) | - |
| | <u>156</u> | <u>(419)</u> | <u>575</u> | <u>(137) %</u> |
| INCOME BEFORE TRANSFERS | <u>13,293</u> | <u>2,030</u> | <u>11,263</u> | <u>555 %</u> |
| TRANSFERS | | | | |
| Transfers to Industrial Commission | (8) | (22) | 14 | (64) |
| CHANGE IN NET POSITION | <u>13,285</u> | <u>2,008</u> | <u>11,277</u> | <u>562 %</u> |
| TOTAL NET POSITION, BEGINNING OF YEAR | <u>218,919</u> | <u>216,911</u> | <u>2,008</u> | <u>1 %</u> |
| TOTAL NET POSITION, END OF YEAR | <u>\$ 232,204</u> | <u>\$ 218,919</u> | <u>\$ 13,285</u> | <u>6 %</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
MANAGEMENT'S DISCUSSION AND ANALYSIS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Operating interest income is comprised of the sum of interest earnings on funds held in trust for the Home Mortgage Finance Program. These funds are invested in investment contracts as reported in Notes 2 and 3 to the financial statements.

FY2023 Operating investment interest income of \$10,977 was up \$10,513 from the prior year as a result of the higher interest rate environment. The Agency uses the Bond Proceeds as Non-purpose investments on a temporary basis to fund mortgage loans until permanent financing is available. The interest rates are substantially higher than the Agency would receive if investing in investment contracts. The interest earned on these Non-purpose investments is considered investment income rather than mortgage loan interest.

FY2022 Operating investment interest income of \$464 was down \$2,828 from the prior year as a result of the change in fair market value of the Agency's MBS investments. Due to an increase in investment rates in general, the fair market value of the MBS investments has been decreasing. The Agency does not actively trade in the MBS market, but purchases the MBS with the intent of keeping it until maturity. Also, GIC and money market rates have been very low, however they have been increasing in the recent months. In an attempt to offset these low rates, the Agency uses the Bond Proceeds as Non-purpose investments on a temporary basis to fund mortgage loans until permanent financing is available. The interest rates are substantially higher than the Agency would receive if investing in investment contracts. The interest earned on these Non-purpose investments is considered investment income rather than mortgage loan interest.

Non-operating interest income represents earnings on the Agency investments, excluding the Homeownership funds. These funds are invested in mortgage-backed securities or the Bank of North Dakota money market and demand accounts. The FY2023 Non-Operating Interest Income was \$43 compared to a negative \$547 in FY2022. This was a direct result of the fair market value increases or decreases on MBS investments. As investment rates increase, the current fair market value of the MBS investments owned by the Agency decrease. If investment rates decrease, the market value of the Agency's current MBS investments should increase. The Agency does not actively trade the MBS investments but intends to hold them until maturity.

Outlook

NDHFA continues to be successful in obtaining taxable and tax-exempt bond financing to purchase mortgage loans by implementing various bond structures including issuing fixed rate and variable rate bonds and entering Interest Rate SWAP agreements. The structure depends on current rates available in both the bond market and the mortgage loans. The Agency continues to monitor the markets to determine if GNMA eligible loans should be securitized into an MBS or if bond financing is the better option. In addition, NDHFA is exploring other financing options in addition to taxable bonds for the non-government insured ROOTS loans. GNMA only allows government insured loans to be securitized.

NDHFA continues to expand the ROOTS program allowing a larger number of families to enjoy the benefits of North Dakota Housing Finance Agency's affordable rates. The ROOTS program continues to grow and the First Home Program continues to be robust. Currently, both programs are being utilized at a high level. In contrast to the prior years, Prepayments made by borrowers have been coming in at a slower pace due to the current increase in mortgage rates. This appears to be a result of fewer mortgages being refinanced due to the smaller economic gain associated with refinancing to a lower rate.

NORTH DAKOTA HOUSING FINANCE AGENCY
MANAGEMENT'S DISCUSSION AND ANALYSIS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

The Agency's First Home program continues to purchase loans at a high level from the Agency's lender partners. The Agency's program offers down payment and closing cost assistance to eligible borrowers which helps a majority of borrowers qualify for purchasing a home. The continuation of the oil industry production in the western part of North Dakota has been relatively stable at the current time. The unpredictable oil field boom and bust cycle may have an effect but does not appear to present a major problem for the Agency at this time. Due to income limits with the Agency's programs, most oil industry workers do not qualify for our First Home programs, however they may qualify for our ROOTS program. The purchase of affordable housing remains robust in the more populous areas of the State.

The Agency has also been successful in issuing multi-family bonds for 4% Low Income Housing Tax Credit projects. This has enabled the developers to attract more equity to housing projects in the state addressing the needs of vulnerable populations.

In 2020, the Agency took over the administration of the HUD Homeless Continuum of Care at the request of the North Dakota Coalition for Homeless People. This enabled the coalition to focus on their advocacy efforts on behalf of this segment of the state's population.

Budgetary Information

As discussed in Note 1 to the financial statements, the North Dakota Housing Finance Agency is funded under a biennial appropriation approved by the state legislature. The biennial appropriation does not provide any state General Fund dollars. Hence, total Agency appropriation is funded from Agency operations.

Contacting the North Dakota Housing Finance Agency's Financial Management

The information in this report is intended to provide the reader with an overview of the Agency's operations along with the Agency's accountability for those operations. Questions concerning any of the information provided in this report or request for additional financial information should be addressed to the North Dakota Housing Finance Agency, P.O. Box 1535, Bismarck, ND 58502-1535.

NORTH DAKOTA HOUSING FINANCE AGENCY
STATEMENTS OF NET POSITION
JUNE 30, 2023 AND 2022
(In Thousands)

| | 2023 | 2022 |
|--|-----------|-----------|
| ASSETS | | |
| CURRENT ASSETS - UNRESTRICTED | | |
| Cash and cash equivalents | \$ 12,089 | \$ 14,436 |
| Receivables | | |
| Interest | | |
| Loans | 2 | 1 |
| Investments | 82 | 26 |
| Due from HUD | 844 | 260 |
| Other | 1,622 | 1,048 |
| Current portion of service release premium | 1,086 | 936 |
| Prepaid expenses | 99 | 85 |
| Total unrestricted current assets | 15,824 | 16,792 |
| CURRENT ASSETS - RESTRICTED | | |
| Cash and cash equivalents | 217,366 | 311,898 |
| Receivables | | |
| Current portion of loans receivable, net of allowance | 35,727 | 32,457 |
| Interest | | |
| Loans | 5,096 | 4,525 |
| Investments | 1,400 | 622 |
| Other | - | 1 |
| Total restricted current assets | 259,589 | 349,503 |
| Total current assets | 275,413 | 366,295 |
| NONCURRENT ASSETS - UNRESTRICTED | | |
| Service release premium, net | 7,361 | 6,507 |
| Equipment, net | 121 | 133 |
| Lease assets, net | 433 | 624 |
| Total unrestricted noncurrent assets | 7,915 | 7,264 |
| NONCURRENT ASSETS - RESTRICTED | | |
| Loans receivable, net of current portion and allowance | 1,540,395 | 1,295,706 |
| Investments | 60,456 | 70,018 |
| Total restricted noncurrent assets | 1,600,851 | 1,365,724 |
| Total noncurrent assets | 1,608,766 | 1,372,988 |
| Total assets | 1,884,179 | 1,739,283 |
| DEFERRED OUTFLOWS OF RESOURCES | | |
| Deferred outflow - pension | 5,566 | 3,213 |
| Deferred outflow - OPEB | 166 | 66 |
| Total deferred outflows of resources | 5,732 | 3,279 |

See Notes to Financial Statements

NORTH DAKOTA HOUSING FINANCE AGENCY
STATEMENTS OF NET POSITION - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

| | 2023 | 2022 |
|---|------------|------------|
| LIABILITIES | | |
| CURRENT LIABILITIES | | |
| Due to HUD | \$ 30 | \$ 20 |
| Due to state agencies | 433 | 403 |
| Other | 2,621 | 1,258 |
| Current portion of compensated absences | 376 | 378 |
| Current portion of bonds payable, net of premium | 60,133 | 46,307 |
| Accrued interest | 24,047 | 17,971 |
| Funds held in trust | 18,824 | 16,172 |
| Total current liabilities | 106,464 | 82,509 |
| NONCURRENT LIABILITIES | | |
| Net pension liability | 7,455 | 2,418 |
| Net OPEB liability | 296 | 128 |
| Financial derivative instrument | (15,936) | (3,688) |
| Bonds payable, net of current portion and premium | 1,540,244 | 1,433,300 |
| Other | 219 | 416 |
| Total noncurrent liabilities | 1,532,278 | 1,432,574 |
| Total liabilities | 1,638,742 | 1,515,083 |
| DEFERRED INFLOWS OF RESOURCES | | |
| Deferred inflow - pension | 3,016 | 4,810 |
| Deferred inflow - OPEB | 13 | 62 |
| Financial derivative instrument | 15,936 | 3,688 |
| Total deferred inflows of resources | 18,965 | 8,560 |
| NET POSITION | | |
| Net investment in capital assets | 112 | 117 |
| Restricted for debt service | 217,892 | 201,443 |
| Unrestricted | 14,200 | 17,359 |
| Total net position | \$ 232,204 | \$ 218,919 |

See Notes to Financial Statements

NORTH DAKOTA HOUSING FINANCE AGENCY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

| | 2023 | 2022 |
|--|------------|------------|
| OPERATING REVENUES | | |
| Mortgage interest income | \$ 49,722 | \$ 39,298 |
| Investment income | 10,977 | 464 |
| Gain (loss) on sale of investments | (176) | (320) |
| Fee income | 4,848 | 4,924 |
| Total revenues | 65,371 | 44,366 |
| OPERATING EXPENSES | | |
| Interest expense | 39,393 | 29,156 |
| Agency grants | 80 | 215 |
| Administrative and operating expenses | 11,381 | 11,931 |
| Pension expense | 1,092 | 384 |
| OPEB expense | 49 | 15 |
| Amortization | 207 | 208 |
| Depreciation | 32 | 8 |
| Total expenses | 52,234 | 41,917 |
| OPERATING INCOME | 13,137 | 2,449 |
| NONOPERATING REVENUES (EXPENSES) | | |
| Federal grants | 22,117 | 15,065 |
| Non-federal grants | 113 | 128 |
| Investment income (loss) | 43 | (547) |
| Federal grants | (22,117) | (15,065) |
| Total nonoperating revenues (expenses) | 156 | (419) |
| INCOME BEFORE TRANSFERS | 13,293 | 2,030 |
| TRANSFERS | | |
| Transfer to Industrial Commission | (8) | (22) |
| CHANGE IN NET POSITION | 13,285 | 2,008 |
| TOTAL NET POSITION, BEGINNING OF YEAR | 218,919 | 216,911 |
| TOTAL NET POSITION, END OF YEAR | \$ 232,204 | \$ 218,919 |

See Notes to the Financial Statements

NORTH DAKOTA HOUSING FINANCE AGENCY
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

| | 2023 | 2022 |
|---|------------|------------|
| OPERATING ACTIVITIES | | |
| Receipts from customers | \$ 316,333 | \$ 248,062 |
| Proceeds from sale of loans receivable | - | 28,880 |
| Interfund mortgages loan purchases and sales | (249,289) | (142,611) |
| Grant funds received in advance | (655) | - |
| Payment of grants | - | (307) |
| Payments to service providers | | |
| State agencies | (5,119) | (4,673) |
| Mortgage loan purchases | (242,357) | (197,971) |
| Other | (12,549) | (9,883) |
| Payments to employees | (4,708) | (4,228) |
| Net cash provided (used) by operating activities | (198,344) | (82,731) |
| NONCAPITAL FINANCING ACTIVITIES | | |
| Principal payments on bonds payable | (123,540) | (266,540) |
| Proceeds from bond issuance | 251,304 | 407,828 |
| Interest paid on loans and bonds | (33,300) | (28,989) |
| Proceeds from federal grants | 22,117 | 15,065 |
| Proceeds from non-federal grants | 113 | 128 |
| Payment of federal grants | (22,117) | (15,065) |
| Transfers to Industrial Commission | (8) | (22) |
| Net cash provided (used) by noncapital financing activities | 94,569 | 112,405 |
| CAPITAL AND RELATED FINANCING ACTIVITIES | | |
| Purchase of equipment | (19) | (131) |
| Principal payments on lease payable | (198) | (192) |
| Interest paid on lease payable | (15) | (21) |
| Net cash used for capital and related financing activities | (232) | (344) |
| INVESTING ACTIVITIES | | |
| Purchase of investments | (3,334) | (42,204) |
| Proceeds from sale of investments | 10,171 | 21,122 |
| Interest received from investments | 291 | 142 |
| Net cash provided (used) by for investing activities | 7,128 | (20,940) |
| NET CHANGE IN CASH AND CASH EQUIVALENTS | (96,879) | 8,390 |
| CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR | 326,334 | 317,944 |
| CASH AND CASH EQUIVALENTS AT END OF YEAR | \$ 229,455 | \$ 326,334 |
| CASH AND CASH EQUIVALENTS - UNRESTRICTED | \$ 12,089 | \$ 14,436 |
| CASH AND CASH EQUIVALENTS - RESTRICTED | 217,366 | 311,898 |
| | \$ 229,455 | \$ 326,334 |

See Notes to the Financial Statements

NORTH DAKOTA HOUSING FINANCE AGENCY
STATEMENTS OF CASH FLOWS - CONTINUED
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

| | 2023 | 2022 |
|--|--------------|-------------|
| RECONCILIATION OF OPERATING INCOME TO NET | | |
| CASH USED BY OPERATING ACTIVITIES | | |
| Operating income | \$ 13,137 | \$ 2,449 |
| Adjustments to reconcile operating income to net cash from operating activities: | | |
| Depreciation | 32 | 8 |
| Amortization | | |
| Original issue discounts and premiums | (6,993) | (6,888) |
| Service release premium | 1,589 | 1,921 |
| Leased asset | 207 | 208 |
| Fair value (increases) decreases of investments | 2,420 | 4,591 |
| Reclassification of interest income/expense to other activities | 38,614 | 28,973 |
| Effect on cash flows due to changes in: | | |
| Deferred outflow - pension | (2,353) | 863 |
| Deferred outflow - OPEB | (100) | 5 |
| Deferred inflows - pension | (1,794) | 3,610 |
| Deferred inflows - OPEB | (49) | 39 |
| Effect on cash flows due to changes in: | | |
| Due from HUD | (585) | (44) |
| Due from State Agencies | - | 57 |
| Other receivables | (574) | (189) |
| Service release premium | (2,593) | (2,408) |
| Prepaid expenses | (13) | (18) |
| Loan interest receivable | (570) | 534 |
| Loans receivable | (247,962) | (108,910) |
| Due to HUD | 10 | (48) |
| Due to State Agencies | 30 | 50 |
| Other liabilities | 1,347 | 111 |
| Compensated absences | (2) | 16 |
| Funds held in trust | 2,653 | (3,256) |
| Net pension liability | 5,205 | (4,405) |
| | \$ (198,344) | \$ (82,731) |
| Non-cash disclosures: | | |
| Increase (decrease) in fair value of investments | \$ (2,725) | \$ (5,278) |

See Notes to the Financial Statements

NORTH DAKOTA HOUSING FINANCE AGENCY
STATEMENT OF APPROPRIATIONS
FOR THE BIENNIUM ENDED JUNE 30, 2023
(In Thousands)

| | 2021-2023 <u>Appropriations</u> <u>Original</u> | 2021-2023 <u>Appropriations</u> <u>As Adjusted</u> | 2021-2023 <u>Expenditures</u> | Unexpended <u>Appropriations</u> |
|------------------------------|---|--|----------------------------------|-------------------------------------|
| Administrative Expenses: | | | | |
| Salaries, wages and benefits | \$ 9,557 | \$ 9,567 | \$ 9,424 | \$ 143 |
| Operating expenses | 6,144 | 7,619 | 7,058 | 561 |
| Capital assets | 150 | 150 | 144 | 6 |
| Grants, benefits and claims | 42,975 | 42,975 | 37,477 | 5,498 |
| Contingency | <u>100</u> | <u>100</u> | <u>7</u> | <u>93</u> |
| Total | <u>\$ 58,926</u> | <u>\$ 60,411</u> | <u>\$ 54,110</u> | <u>\$ 6,301</u> |

- (1) The Agency's total appropriations of \$60,411 consist of funding of \$44,004 from federal funds and \$16,407 from special funds. The Agency has a continuing appropriation for operating expenses authorized by Section 4 of HB 1014.
- (2) This statement includes only those expenditures for which there are appropriations. A reconciliation to the expenses on the statement of revenues, expenses and changes in fund net position follows (in thousands):

| | <u>2023</u> | <u>2022</u> |
|---|------------------|------------------|
| Total expenditures | \$ 30,833 | \$ 23,277 |
| Less: Grants, benefits and claims | (22,197) | (15,280) |
| Administrative and operating expenses relating to | | |
| Rental, Homeownership Bonds and Agency expenses | 1,398 | 2,373 |
| Amortization of service release premium | 1,589 | 1,921 |
| Amortization of leased asset | (207) | (208) |
| Depreciation | 32 | 8 |
| Interest expense on leased asset | (15) | (21) |
| Capital assets | <u>(20)</u> | <u>(131)</u> |
| Total administrative and operation expenses, salaries and benefits, and depreciation | <u>\$ 11,413</u> | <u>\$ 11,939</u> |

See Notes to the Financial Statements

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS
JUNE 30, 2023 AND 2022
(In Thousands)

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principal Activity

The North Dakota Housing Finance Agency (Agency) was created in 1980 by an initiated measure. The Agency is authorized, among other things, to make mortgage and construction loans to housing sponsors; to make loans to mortgage lenders, requiring the proceeds thereof to be used for making new qualified residential mortgage loans; to purchase qualified mortgage loans from mortgage lenders; and to apply for and receive assistance and subsidies under programs of the federal government.

The Agency is authorized to issue bonds and notes in order to exercise its authorized powers. Bonds and notes issued by the Agency under the 1994 and 2009 General Resolutions are not a debt or liability of the State of North Dakota and the state is not liable for repayment of such obligations. Bonds under the 1994 and 2009 General Resolutions are general obligations of the Agency.

Reporting Entity

In accordance with Governmental Accounting Standards Board (GASB) statements, the Agency should include all component units over which the Agency exercises such aspects as (1) appointing a voting majority of an organization's governing body and (2) has the ability to impose its will on that organization or (3) the potential for the organization to provide specific financial benefits to, or impose specific burdens on the Agency.

Based on the criteria as set forth by the GASB, no other organizations were determined to be part of the reporting entity. The North Dakota Housing Finance Agency is included as part of the primary government of the State of North Dakota's reporting entity.

Budgetary Process

The Agency operates through a biennial appropriation provided by the State Legislature. The Agency prepares a biennial budget which is included in the Governor's budget that is presented to the General Assembly at the beginning of each legislative session. The General Assembly enacts the budgets of the various state departments through passage of specific appropriation bills. The Governor has line item veto powers over all legislation subject to legislative override. Once passed and signed, the appropriation becomes the Agency's financial plan for the next two years. The Agency has a continuous appropriation of any additional income from federal or other funds which may become available to the Agency. Changes to the appropriation not falling under the continuing appropriation are subject to approval by the State Emergency Commission.

The State's budgeting system does not include revenues and thus, a Statement of Revenues and Expenses – Budget and Actual cannot be prepared as required by generally accepted accounting principles. In its place, a Statement of Appropriations has been presented. The Statement of Appropriations has been prepared using the accrual basis of accounting and includes only those expenses for which an appropriation has been established.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Accounting Standards

The Agency follows the pronouncements of the Governmental Accounting Standards Board, which is the nationally accepted standard-setting body for establishing generally accepted accounting principles for governmental entities.

Fund Accounting

The accounts of the Agency are organized on the basis of funds, each of which is considered a separate accounting entity. Each fund is accounted for by a separate set of self-balancing accounts that comprise its assets, deferred outflows of resources, liabilities, deferred inflows of resources, net position, revenues, and expenses. The funds account for the flow of resources of carrying on specific activities in accordance with laws, regulations, or debt restrictions.

The Agency's funds are:

Agency Operating Funds

These funds account for (1) activities related to the development and administration of Agency financial programs, (2) HUD Section 8 Housing Assistance Payment programs, (3) Agency owned assets and (4) any activities of the Agency not applicable to the other funds.

Homeownership Bond Funds

These funds account for the proceeds from the sale of Homeownership Bonds, the debt service requirements of the bond indebtedness, and mortgage loans and assets acquired with bond proceeds to finance single family home ownership.

Basis of Accounting and Measurement Focus

The accounting and financial reporting treatment applied to a fund is determined by its measurement focus. All enterprise funds are accounted for using the economic resources measurement focus. With this measurement focus, all assets and deferred outflows of resources, and liabilities and deferred inflows of resources associated with the operation of these funds are included on the statement of net position. Net position is segregated into invested in capital assets, restricted and unrestricted components. The statements of revenues, expenses and changes in fund net position present increases (e.g., revenues) and decreases (e.g., expenses) in total net position. When both restricted and unrestricted net position are available for use, generally it is the Agency's policy to use restricted net position first, and then unrestricted net position as they are needed. The statements of cash flows present the cash flows for operating activities, investing activities, capital and related financing activities and non-capital financing activities.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Use of Estimates

In preparing financial statements in conformity with accounting principles generally accepted in the United States of America, management is required to make estimates and assumptions that affect reported amounts of assets, deferred outflows of resources, liabilities and deferred inflows of resources at the date of the balance sheet and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Significant Group Concentrations of Credit Risk

All of the Agency's mortgage loans are secured by houses located within the State of North Dakota.

Cash and Cash Equivalents

The Agency considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Investments

Investments are reported at fair value. All investment income, including changes in the fair value of investments, is recognized in the statements of revenues, expenses, and changes in net position.

Funds held by trustees or the Agency under bond resolutions are to be invested to the fullest extent possible in investment obligations selected by the Agency. The maturity date or the date on which such investment obligations may be redeemed shall coincide as nearly as practicable with the date or dates on which moneys in the funds or accounts for which the investments were made will be required. The restricted bond accounts have their moneys invested in various debt securities such as mortgage-backed securities and investment contracts.

Interfund Receivables and Payables

Advances between funds during the year resulting in interfund receivables and payables have been eliminated from the financial statements.

Mortgage Loans Receivable

Mortgage loans receivable are recorded at amounts advanced less principal payments and, in the Homeownership Bond Fund, net of purchase discounts. Interest income on loans is accrued at the specific rate on the unpaid principal balance.

Service Release Premium

The Agency purchases the rights to service mortgage loans from the originating financial institutions. The payments to the originating financial institutions are recorded as a service release premium. The premium is amortized over eleven years which is the average life of the mortgage loans including prepayments and refinancing of the loans.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Equipment

Equipment and furnishings are stated at cost, net of accumulated depreciation. Equipment and furnishings with a cost of \$5,000 or more per unit are capitalized and reported in the accompanying financial statements.

Depreciation is computed using the straight-line method over the estimated useful lives of the assets which range from three to five years.

Funds Held in Trust

These amounts consist of escrow, buy-down and partial payments made by mortgagors on loans serviced by the Agency.

Accumulated Unpaid Vacation and Sick Pay

Annual leave and sick leave are a part of permanent employees' compensation as set forth in Section 54-06-14 of the North Dakota Century Code. Annual leave is earned based on tenure of employment, within a range of a minimum of one working day per month of employment, to a maximum of two working days per month of employment, to be fixed by rules and regulations adopted by the employing unit. In general, accrued annual leave cannot exceed 30 days at each year-end, as set by the Agency. Employees are paid for unused annual leave upon termination or retirement.

Sick leave is earned based on tenure at the rate of one to a maximum of one and one-half working days per month of employment. There are no limitations on the amount of sick leave that an employee can accumulate. Employees who have ten continuous years of service are paid one-tenth of their accumulated sick leave upon leaving service under chapter 54-52 of the North Dakota Century Code. A liability is recognized for that portion of accumulating sick leave benefits that is estimated will be taken as required by the Governmental Accounting Standards Board Statement No. 16, *Accounting for Compensated Absences*.

Pensions

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the North Dakota Public Employees Retirement System (NDPERS) and additions to/deductions from NDPERS' fiduciary net position have been determined on the same basis as they are reported by NDPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Other Post Employment Benefits (OPEB)

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the North Dakota Public Employees Retirement System (NDPERS) and additions to/deductions from NDPERS' fiduciary net position have been determined on the same basis as they are reported by NDPERS. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Financial Derivative Instrument

North Dakota Housing Finance Agency enters into interest rate swap agreements to modify interest rates on outstanding debt.

Operating and Non-Operating Revenues

Operating revenues consist of sales of goods and services, interest earned and proceeds from lending activities, quasi-external operating transactions with other funds, grant revenue for specific activities that are considered to be operating activities of the grantor, receipts from other agencies for reimbursement of operating transactions and other miscellaneous revenue. Grants that would qualify as an operating activity are those that do not subsidize an existing program, rather they finance a program the Agency would not otherwise undertake. Investment income in the Homeownership Bond Fund is recorded as operating income as these revenues are generated from the Agency's operations needed to carry out its statutory purpose.

All other revenues that do not meet the above criteria are classified as non-operating.

Leases

The determination of whether an arrangement contains a lease is made at inception by evaluating whether the arrangement conveys the right to use an identified asset and whether the Agency has control of the right to use asset. Control includes the right to obtain present service capacity and the right to determine the nature and manner of use of the underlying asset, as specified in the contract.

Leases with an initial lease term of more than 12 months, or that contain an option to purchase that the Agency is reasonably certain to exercise, are recognized based on the present value of lease payments over the lease term discounted using the interest rate implicit in the lease. In cases where the implicit rate is not readily determinable, the Agency uses its incremental borrowing rate based on the information available at the lease commencement date. The Agency has made an accounting policy election to use a risk free rate based on US Treasury T-bill rate as of the lease commencement. The Agency accounts for lease agreements with lease and non-lease components together as a single lease component for all underlying classes of assets.

The Agency continues to record rent expense for short term leases on a straight-line basis over the lease term. Short term leases have a term of 12 months or less at lease commencement and do not include an option to purchase the underlying asset that the Agency is reasonably certain to exercise.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

The depreciable life of assets and leasehold improvements are limited by the expected lease term unless there is a transfer of title or purchase option reasonably certain of exercise.

The Agency's lease agreements do not include any material residual value guarantees or restrictive covenants.

Fair Value of Financial Statements

Fair value measurements are used to record fair value adjustments to certain assets, deferred outflows of resources, liabilities and deferred inflows of resources to determine fair value disclosures.

Fair Value Hierarchy

Assets, deferred outflows of resources, liabilities and deferred inflows of resources are grouped at fair value in three levels, based on the markets in which the assets and liabilities are traded and the reliability of the assumptions used to determine fair value. These levels are:

Level 1: Valuation is based upon quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

Level 2: Valuation is based upon quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market.

Level 3: Valuation is generated from model-based techniques that use significant assumptions not observable in the market. These unobservable assumptions reflect our own estimates of assumptions that market participants would use in pricing the asset or liability. Valuation techniques include use of option pricing models, discounted cash flow models and similar techniques.

Determination of Fair Value

Fair values are based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It is the Agency's policy to maximize the use of observable inputs and minimize the use of unobservable inputs when developing fair value measurements, in accordance with the fair value hierarchy. The following is a description of the methodologies used for instruments measured at fair value.

Securities

Securities consist primarily of Federal agencies and mortgage backed securities. Securities are recorded at fair value on a recurring basis. Fair value is based upon quoted prices, if available. If quoted market prices are not available, fair values are measured using observable market prices from independent pricing models, or other model-based valuation techniques such as the present value of future cash flows, adjusted for the security's credit rating, prepayment assumptions and other factors such as credit loss assumptions. Level 1 securities include those traded in an active market; examples would include U.S. Treasuries. Level 2 securities as defined above would include mortgage-backed securities and municipal bonds.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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Interest Rate Swap Agreements

Fair values for interest rate swap agreements are based upon the settlement value adjusted by estimated nonperformance risk.

NOTE 2 DEPOSITS

Custodial Credit Risk

State law generally requires that all state funds be deposited in the Bank of North Dakota. NDCC 21-04-01 provides that public funds belonging to or in the custody of the state shall be deposited in the Bank of North Dakota. Also, NDCC 6-09-07 states, "all state funds ... must be deposited in the Bank of North Dakota" or must be deposited in accordance with constitutional and statutory provisions.

The bank balances of deposits of the Agency at June 30, 2023 and 2022 was \$32,136 and \$31,943, respectively, consisting of interest-bearing and noninterest-bearing operating cash deposited at the Bank of North Dakota.

The deposits at the Bank of North Dakota are guaranteed by the State of North Dakota through NDCC Section 6-09-10. The carrying amounts of the deposits of the Agency at the Bank of North Dakota at June 30, 2023 and 2022 was \$30,900 and \$30,608, respectively.

The carrying amounts of the Agency's cash and cash equivalents as reported on the balance sheet at June 30, 2023 and 2022 is as follows:

| | <u>2023</u> | <u>2022</u> |
|---|-------------------|-------------------|
| Unrestricted | | |
| Cash and cash equivalents | | |
| Deposits at Bank of North Dakota | \$ 12,085 | \$ 14,436 |
| Deposits at Federal Home Loan Bank | 4 | - |
| | <u>\$ 12,089</u> | <u>\$ 14,436</u> |
| Total cash and cash equivalents | | |
| Restricted | | |
| Cash and cash equivalents | | |
| Deposits at Bank of North Dakota | \$ 18,815 | \$ 16,172 |
| Deposits at Federal Home Loan Bank | 9 | - |
| Deposits at Wilmington Trust | 2,022 | 1,128 |
| Cash and cash equivalents held in trust | 187,385 | 99,289 |
| Fixed rate investment agreements reported as cash equivalents | 9,135 | 195,309 |
| | <u>\$ 217,366</u> | <u>\$ 311,898</u> |
| Total cash and cash equivalents | | |

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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NOTE 3 INVESTMENTS

The Agency does not have an investment policy that specifically addresses the risks below. However, the respective bond resolutions permit only investments that will not adversely affect the rating quality of the outstanding bonds. The maturity date or the date on which such investment obligations may be redeemed shall coincide as nearly as practicable with the date or dates on which moneys in the funds or accounts for which the investments were made will be required.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of investments. The following shows the investments by investment type, amount and the duration at June 30, 2023:

| | <u>Total Market Value</u> | <u>Less than 1 Year</u> | <u>1 - 5 Years</u> | <u>5 - 10 Years</u> | <u>More Than 10 Years</u> |
|-----------------------|-------------------------------|-----------------------------|------------------------|-------------------------|-------------------------------|
| Total Debt Securities | <u>\$ 60,456</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 60,456</u> |

The following shows the investments by investment type, amount and the duration at June 30, 2022:

| | <u>Total Market Value</u> | <u>Less than 1 Year</u> | <u>1 - 5 Years</u> | <u>5 - 10 Years</u> | <u>More Than 10 Years</u> |
|-----------------------|-------------------------------|-----------------------------|------------------------|-------------------------|-------------------------------|
| Total Debt Securities | <u>\$ 70,018</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 70,018</u> |

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The fixed rate investment agreements and the U.S. Treasury Bonds are not rated.

As of June 30, 2023, the Agency owned \$7,034 and the 1994 General Resolution Bond Issues owned \$53,422 of the \$60,456 Mortgage Backed Securities. The \$53,422 is restricted funds through the Bond Issue requirements. The Agency operating fund investment securities with a carrying amount of approximately \$7,889, (all of which are MBS owned by the Agency), at June 30, 2023 were pledged as requested by rating agencies in conjunction with the 1994 and 2009 General Resolutions and as collateral on bank loans.

As of June 30, 2022, the Agency owned \$8,296 and the 1994 General Resolution Bond Issues owned \$61,722 of the \$70,018 Mortgage Backed Securities. The \$61,722 is restricted funds through the Bond Issue requirements. The Agency operating fund investment securities with a carrying amount of approximately \$8,847, (all of which are MBS owned by the Agency), at June 30, 2022 were pledged as requested by rating agencies in conjunction with the 1994 and 2009 General Resolutions and as collateral on bank loans.

NORTH DAKOTA HOUSING FINANCE AGENCY
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NOTE 4 FAIR VALUE OF FINANCIAL INSTRUMENTS

The table below presents the balances of assets, deferred outflows of resources and deferred inflows of resources measured at fair value on a recurring basis at June 30, 2023.

| | Total | Quoted Prices in Active Markets Level 1 | Significant Other Observable Inputs Level 2 | Significant Unobservable Inputs Level 3 |
|----------------------------|------------------|---|---|--|
| ASSETS | | | | |
| Mortgage-backed securities | | | | |
| Agency | \$ 60,456 | \$ - | \$ 60,456 | \$ - |
| Total | <u>\$ 60,456</u> | <u>\$ -</u> | <u>\$ 60,456</u> | <u>\$ -</u> |
| Interest rate swap | <u>\$ 15,936</u> | <u>\$ -</u> | <u>\$ 15,936</u> | <u>\$ -</u> |

The table below presents the balances of assets, deferred outflows of resources and deferred inflows of resources measured at fair value on a recurring basis at June 30, 2022.

| | Total | Level 1 | Level 2 | Level 3 |
|----------------------------|------------------|-------------|------------------|-------------|
| ASSETS | | | | |
| Mortgage-backed securities | | | | |
| Agency | \$ 70,018 | \$ - | \$ 70,018 | \$ - |
| Total | <u>\$ 70,018</u> | <u>\$ -</u> | <u>\$ 70,018</u> | <u>\$ -</u> |
| Interest rate swap | <u>\$ 3,688</u> | <u>\$ -</u> | <u>\$ 3,688</u> | <u>\$ -</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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NOTE 5 LOANS RECEIVABLE

Loans receivable at June 30, 2023 and 2022 consist of the following:

| | <u>2023</u> | <u>2022</u> |
|---|---------------------|---------------------|
| Restricted: | | |
| Agency operating funds | \$ 347 | \$ 377 |
| Less: current portion | <u>33</u> | <u>32</u> |
| Total loan receivable, net of current portion | <u>\$ 314</u> | <u>\$ 345</u> |
| Restricted: | | |
| Homeownership bond funds | \$ 1,575,775 | \$ 1,327,786 |
| Less: current portion | <u>35,694</u> | <u>32,425</u> |
| Total loan receivable, net of current portion | <u>\$ 1,540,081</u> | <u>\$ 1,295,361</u> |

Mortgage loans are secured by first liens on real property.

Agency and Homeownership mortgage loans are insured by a private primary mortgage insurer, the Federal Housing Administration or guaranteed by the Veterans Administration, USDA-RD, or uninsured with a loan to value of 80% or less.

Interest rates on Agency and Homeownership mortgage loans vary from 0.00% to 8.20% for the year ended June 30, 2023 and 2022 with maturities of such loans ranging from less than one year to 40 years.

Included in Homeownership and Agency mortgage loans are loans totaling \$916 which have been foreclosed on and are owned by the Agency (REO), \$272 in real estate loans in judgment (REJ), and 48 loans totaling \$6,142 that were in the foreclosure process at June 30, 2023. At June 30, 2022, Homeownership and Agency mortgage loans included loans totaling \$318 which have been foreclosed on and are owned by the Agency (REO), \$285 in real estate loans in judgment (REJ), and 64 loans totaling \$8,853 that were in the foreclosure process. Since such loans are at least partially insured or guaranteed by outside parties, it is anticipated that the Agency will recover substantially all of the unpaid principal and interest on the loans through insurance payments or sale of foreclosed property.

The Agency also has \$4,695 of NSP loans and \$14,687 of HOME loans recorded which are not expected to be collected and an allowance has been recorded for full loan balance.

NORTH DAKOTA HOUSING FINANCE AGENCY
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NOTE 6 INTERGOVERNMENTAL RECEIVABLES AND PAYABLES

The Agency operates various Department of Housing and Urban Development (HUD) Section 8 rent subsidy programs. Under these programs the Agency draws down, in advance, sufficient funds to cover estimated rent subsidies. An estimate of rents is used because occupancy of rental units is not known until rent payments become due. The use of rent estimates results in over-and-under drawdowns of HUD funds. These amounts cannot be offset and are shown at year-end as intergovernmental receivables and payables as follows:

| | 2023 | 2022 |
|--------------|--------|--------|
| Due from HUD | \$ 844 | \$ 260 |
| Due to HUD | \$ 30 | \$ 20 |

NOTE 7 EQUIPMENT

A summary of changes in equipment and accumulated depreciation is as follows:

| | Equipment | Accumulated Depreciation | Net Equipment |
|-----------------------|-----------|-----------------------------|------------------|
| Balance July 1, 2021 | \$ 213 | \$ 202 | \$ 11 |
| Additions | 130 | 8 | |
| Deletions | - | - | |
| Balance July 1, 2022 | \$ 343 | \$ 210 | \$ 133 |
| Additions | 19 | 31 | |
| Deletions | - | - | |
| Balance June 30, 2023 | \$ 362 | \$ 241 | \$ 121 |

NORTH DAKOTA HOUSING FINANCE AGENCY
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NOTE 8 OTHER RECEIVABLES

A detail of other receivables as of June 30, 2023 and 2022 is as follows:

| | <u>2023</u> | <u>2022</u> |
|----------------------------|-----------------|-----------------|
| Unrestricted: | | |
| Receivable from servicer | \$ 189 | \$ 95 |
| Receivable from developers | 514 | 392 |
| Accounts receivable | <u>919</u> | <u>561</u> |
| | <u>\$ 1,622</u> | <u>\$ 1,048</u> |
| Restricted: | | |
| Accounts receivable | <u>\$ -</u> | <u>\$ 1</u> |

NOTE 9 OTHER LIABILITIES

A detail of other liabilities as of June 30, 2023 and 2022 is as follows:

| | <u>2023</u> | <u>2022</u> |
|------------------|-----------------|-----------------|
| Remarketing fees | \$ 39 | \$ 31 |
| Commitment fees | 86 | 86 |
| Lease payable | 442 | 640 |
| Accounts payable | <u>2,273</u> | <u>917</u> |
| | <u>\$ 2,840</u> | <u>\$ 1,674</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
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NOTE 10 RELATED PARTY TRANSACTIONS

The Agency had the following transactions with related parties as of June 30, 2023 and 2022:

| | <u>2023</u> | <u>2022</u> |
|--|------------------|------------------|
| Cash and cash equivalents - unrestricted | | |
| Bank of North Dakota | <u>\$ 12,085</u> | <u>\$ 14,436</u> |
| Cash and cash equivalents - restricted | | |
| Bank of North Dakota | <u>\$ 18,815</u> | <u>\$ 16,172</u> |
| Due to state agencies | | |
| Information Technology Department | \$ 9 | \$ 9 |
| Attorney General | 3 | 3 |
| Department of Transportation | 1 | 1 |
| Office of Management and Budget | <u>420</u> | <u>390</u> |
| | <u>\$ 433</u> | <u>\$ 403</u> |
| Transfers out | | |
| Industrial Commission | <u>\$ 8</u> | <u>\$ 22</u> |
| Administrative and operating expenses | | |
| Bank of North Dakota | | |
| Late fees | \$ - | \$ 38 |
| SRP | - | 42 |
| Information Technology Department | | |
| Telephone and data processing | 21 | 20 |
| Data processing | 95 | 88 |
| Attorney General | | |
| Legal fees | 18 | 37 |
| Office of Management and Budget | | |
| Supplies and conferences | 2 | 2 |
| Risk management premium | - | - |
| Printing | 26 | 14 |
| Indirect cost allocation | 26 | 26 |
| Payroll and benefits | 4,944 | 4,493 |
| Department of Transportation | | |
| Slate fleet rental | 10 | 10 |
| Department of Insurance | | |
| State fire and tornado fund premium | 1 | 1 |
| Human Resource Management Services | | |
| Training sessions | 1 | 1 |
| Rough Rider Industries | | |
| Supplies | 1 | 1 |
| Risk Management | | |
| RM fund contribution | 2 | 2 |
| WC premiums | <u>4</u> | <u>4</u> |
| | <u>\$ 5,151</u> | <u>\$ 4,779</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
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NOTE 11 LEASES

The Agency leases office space in Bismarck, North Dakota. The original term of the lease is for a period of 24 months, commencing on July 1, 2021 and terminating June 30, 2023 with an annual rent payment of \$213,280. The Agency renewed the lease under the same terms and conditions for a period of 24 month terminating on June 30, 2025. The annual rent increased to \$227,040 upon renewal.

Following is the total lease expense for the years ended June 30, 2023 and 2022.

| Lease Expense | <u>Year Ending 6/30/23</u> | <u>Year Ending 6/30/22</u> |
|--|--------------------------------|--------------------------------|
| Amortization expense by class of underlying asset | | |
| Building | \$ 207 | \$ 208 |
| Total amortization expense | 207 | 208 |
| Interest on lease liabilities | 15 | 21 |
| Variable lease expense | - | - |
| Total | <u>\$ 222</u> | <u>\$ 229</u> |

Following is a schedule of activity in leased assets and the lease liability for the year ended June 30, 2023.

| Lease Asset: | <u>Beginning of Year</u> | <u>Additions</u> | <u>Modifi- cations & Remeasure- ments</u> | <u>Subtractions</u> | <u>End of Year</u> | <u>Amounts Due Within One Year</u> |
|--------------------------------|------------------------------|------------------|---|---------------------|------------------------|--|
| Building | \$ 832 | \$ - | \$ - | \$ - | \$ 832 | |
| Less: Accumulated Amortization | | | | | | |
| Building | (208) | (191) | - | - | (399) | |
| Total Lease Assets, net | <u>\$ 624</u> | <u>\$ (191)</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 433</u> | |
| Lease Liabilities | <u>\$ 640</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ (198)</u> | <u>\$ 442</u> | <u>\$ 217</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
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Following is a schedule of activity in leased assets and leased liability for the year ended June 30, 2022:

| Lease Asset: | Beginning of Year | Additions | Modifi- cations & Remeasure- ments | Subtractions | End of Year | Amounts Due Within One Year |
|--------------------------------|----------------------|-----------------|---|-----------------|---------------|-----------------------------------|
| Building | \$ 832 | \$ - | \$ - | \$ - | \$ 832 | |
| Less: Accumulated Amortization | | | | | | |
| Building | - | (208) | - | - | (208) | |
| Total Lease Assets, net | <u>\$ 832</u> | <u>\$ (208)</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 624</u> | |
| Lease Liabilities | <u>\$ 832</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ (192)</u> | <u>\$ 640</u> | <u>\$ 198</u> |

Following is a schedule by years of future minimum rental payments required under the lease:

| Year Ending June 30, | Principal | Interest | Total Payments |
|-----------------------|---------------|--------------|-------------------|
| 2024 | \$ 217 | \$ 10 | \$ 227 |
| 2025 | 225 | 3 | 228 |
| Total Future Payments | <u>\$ 442</u> | <u>\$ 13</u> | <u>\$ 455</u> |

NOTE 12 LONG-TERM LIABILITIES

Change in Long-Term Liabilities

A summary of changes in long-term liabilities for the year ended June 30, 2023 is as follows:

| | Balance 7/1/22 | Additions | Reductions | Balance 6/30/23 | Amounts Due Within One Year |
|-------------------------------|---------------------|-------------------|-------------------|---------------------|--------------------------------------|
| Homeownership bond funds, par | \$ 1,457,080 | \$ 240,000 | \$ 123,540 | \$ 1,573,540 | \$ 53,770 |
| Multi-family revenue bonds | - | 5,000 | - | 5,000 | 5,000 |
| Premium on bond funds | 22,527 | 6,303 | 6,993 | 21,837 | 6,363 |
| Compensated absences | 378 | 271 | 273 | 376 | 376 |
| | <u>\$ 1,479,985</u> | <u>\$ 251,574</u> | <u>\$ 130,806</u> | <u>\$ 1,600,753</u> | <u>\$ 65,509</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
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A summary of changes in long-term liabilities for the year ended June 30, 2022 is as follows:

| | Balance 7/1/21 | Additions | Reductions | Balance 6/30/22 | Amounts Due Within One Year |
|-------------------------------|---------------------|-------------------|-------------------|---------------------|--------------------------------------|
| Homeownership bond funds, par | \$ 1,322,320 | \$ 401,300 | \$ 266,540 | \$ 1,457,080 | \$ 39,975 |
| Premium on bond funds | 22,887 | 6,528 | 6,888 | 22,527 | 6,332 |
| Compensated absences | 361 | 246 | 229 | 378 | 378 |
| | <u>\$ 1,345,568</u> | <u>\$ 408,074</u> | <u>\$ 273,657</u> | <u>\$ 1,479,985</u> | <u>\$ 46,685</u> |

Bonds Payable

The bonds of the various Agency funds have been issued to provide financing to purchase mortgage loans and to finance rental housing projects. The bonds are direct obligations of the Agency and are secured by the mortgage loans purchased under the applicable resolutions; the revenues, prepayments, insurance and foreclosure proceeds received related to the mortgage loans; and certain funds and accounts established pursuant to the applicable bond resolution.

Maturities of Bonds Payable

Maturities of principal and interest on all bonds are as follows:

| <u>Years Ending June 30,</u> | <u>Principal</u> | <u>Interest</u> | <u>Total Debt Service</u> |
|------------------------------|---------------------|-------------------|-------------------------------|
| 2024 | \$ 58,770 | \$ 49,950 | \$ 108,720 |
| 2025 | 55,425 | 49,821 | 105,246 |
| 2026 | 52,940 | 48,702 | 101,642 |
| 2027 | 56,485 | 47,542 | 104,027 |
| 2028 | 49,285 | 46,261 | 95,546 |
| 2029 - 2033 | 222,160 | 213,973 | 436,133 |
| 2034 - 2038 | 247,360 | 180,671 | 428,031 |
| 2039 - 2043 | 281,630 | 136,205 | 417,835 |
| 2044 - 2048 | 333,570 | 83,604 | 417,174 |
| 2049 - 2053 | 217,420 | 22,831 | 240,251 |
| 2054 - 2058 | 3,495 | 101 | 3,596 |
| Premiums | 21,837 | (21,837) | - |
| | <u>\$ 1,600,377</u> | <u>\$ 857,824</u> | <u>\$ 2,458,201</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
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(In Thousands)

Schedules of Bonds Payable

The following summarizes the Agency's bonds payable outstanding at June 30, 2023 and 2022. The term bonds of all bond series have mandatory sinking fund requirements. All of the bonds payable relate to the Agency's Homeownership Bond Fund.

| | Interest Rate | 2023 | 2022 |
|------------------------------|------------------|-----------|-----------|
| Series 2008 B | | | |
| Term Bond 7/1/38 | Variable | \$ 12,735 | \$ 12,735 |
| Series 2015A | | | |
| Serial Bonds 7/1/15 - 7/1/26 | 2.35 - 3.10 | - | 3,670 |
| Serial Bonds 7/1/22 - 7/1/24 | 2.65 - 2.90 | 2,605 | - |
| Term Bond 1/1/38 (Premium) | 4.00 | 1,440 | 3,265 |
| Premium (Discount) | | 6 | 44 |
| Series 2015BC | | | |
| Term Bond 1/1/36 (Premium) | 4.00 | 3,025 | 5,445 |
| Term Bond 1/1/46 | Variable | 15,040 | 15,985 |
| Premium (Discount) | | 23 | 83 |
| Series 2015DE | | | |
| Term Bond 7/1/46 (Premium) | 4.00 | 4,830 | 7,690 |
| Term Bond 7/1/36 | Variable | 17,230 | 20,190 |
| Premium (Discount) | | 54 | 144 |
| Series 2015F | | | |
| Term Bond 1/1/47 | Variable | 25,000 | 25,000 |
| Series 2016AB | | | |
| Serial Bonds 1/1/19 - 7/1/27 | 1.50 - 2.60 | - | 26,930 |
| Serial Bonds 7/1/22 - 1/1/27 | 1.80 - 2.55 | 21,765 | - |
| Term Bond 7/1/31 | 2.95 | 5,010 | 5,010 |
| Term Bond 1/1/35 | 3.20 | 3,280 | 3,280 |
| Term Bond 1/1/47 (Premium) | 4.00 | 13,455 | 18,925 |
| Premium (Discount) | | 315 | 592 |
| Series 2016CDE | | | |
| Serial Bonds 7/1/22 - 7/1/25 | 1.70 - 2.15 | - | 8,220 |
| Serial Bonds 1/1/23 - 7/1/25 | 1.80 - 2.15 | 6,850 | - |
| Serial Bonds 7/1/25 - 7/1/28 | 2.15 - 2.60 | 13,750 | 13,750 |
| Term Bond 7/1/32 | 2.85 | 3,850 | 6,070 |
| Term Bond 1/1/36 | 3.15 | 3,365 | 5,310 |
| Term Bond 7/1/46 (Premium) | 3.50 | 16,810 | 22,315 |
| Premium (Discount) | | 436 | 732 |

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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(In Thousands)

| | Interest Rate | 2023 | 2022 |
|------------------------------|------------------|--------|-----------|
| Series 2017A | | | |
| Serial Bonds 1/1/18 - 7/1/28 | 1.85 - 3.05 | \$ - | \$ 15,110 |
| Serial Bonds 1/1/23 - 7/1/27 | 2.20 - 2.95 | 13,395 | - |
| Term Bond 7/1/47 (Premium) | 4.00 | 9,545 | 13,020 |
| Premium (Discount) | | 206 | 373 |
| Series 2017BC | | | |
| Serial Bonds 7/1/18 - 7/1/24 | 2.45 - 3.15 | - | 1,710 |
| Term Bond 1/1/47 | Variable | 13,940 | 13,940 |
| Series 2017DE | | | |
| Serial Bonds 7/1/18 - 7/1/22 | 1.75 - 1.90 | - | 540 |
| Serial Bonds 7/1/22 - 1/1/28 | 1.50 - 2.65 | 11,290 | 12,745 |
| Term Bonds 7/1/32 | 3.15 | 5,985 | 5,985 |
| Term Bonds 7/1/37 | 3.45 | 4,695 | 4,695 |
| Term Bonds 7/1/40 | 3.55 | 2,400 | 2,400 |
| Term Bonds 7/1/47 (Premium) | 4.00 | 12,440 | 16,430 |
| Premium (Discount) | | 396 | 667 |
| Series 2017FGH | | | |
| Serial Bonds 1/1/19 - 1/1/25 | 2.00 - 2.55 | - | 5,225 |
| Serial Bonds 1/1/23 - 1/1/25 | 2.25 - 2.55 | 3,785 | - |
| Term Bonds 7/1/48 (Premium) | 4.00 | 14,535 | 19,000 |
| Term Bond 7/1/39 | Variable | 28,250 | 28,250 |
| Premium (Discount) | | 356 | 584 |
| Series 2018A | | | |
| Serial Bonds 7/1/19 - 7/1/29 | 2.25 - 3.20 | - | 15,380 |
| Serial Bonds 7/1/22 - 7/1/29 | 2.35 - 3.20 | 13,595 | - |
| Term Bonds 7/1/33 | 3.55 | 5,160 | 5,160 |
| Term Bonds 7/1/38 | 3.75 | 5,320 | 5,870 |
| Term Bonds 1/1/42 | 3.85 | 4,360 | 4,810 |
| Term Bonds 7/1/49 (Premium) | 4.00 | 16,500 | 21,285 |
| Premium (Discount) | | 356 | 568 |
| Series 2018BC | | | |
| Serial Bonds 7/1/19 - 7/1/28 | 3.05 - 3.80 | - | 5,045 |
| Serial Bonds 7/1/22 - 1/1/25 | 3.25 - 3.55 | 2,980 | - |
| Term Bond 1/1/49 | Variable | 9,355 | 9,355 |
| Series 2018D | | | |
| Serial Bonds 7/1/19 - 7/1/30 | 1.95 - 3.30 | - | 22,310 |
| Serial Bonds 7/1/22 - 7/1/29 | 2.15 - 3.25 | 19,575 | - |
| Term Bond 7/1/33 | 3.55 | 4,130 | 4,130 |
| Term Bond 7/1/38 | 3.85 | 3,875 | 5,135 |
| Term Bond 7/1/42 | 3.95 | 3,560 | 4,720 |
| Term Bond 1/1/49 (premium) | 4.25 | 22,140 | 28,330 |
| Premium (discount) | | 596 | 938 |

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| | Interest Rate | 2023 | 2022 |
|------------------------------|------------------|--------|-----------|
| Series 2019AB | | | |
| Serial Bonds 1/1/20 - 7/1/31 | 1.95 - 3.20 | \$ - | \$ 10,190 |
| Serial Bonds 1/1/23 - 1/1/28 | 2.20 - 2.85 | 8,620 | - |
| Term Bonds 7/1/42 | Variable | 25,000 | 25,000 |
| Term Bond 7/1/49 (premium) | 4.25 | 16,720 | 21,065 |
| Premium (discount) | | 501 | 761 |
| Series 2019C | | | |
| Serial Bonds 7/1/20 - 7/1/30 | 1.75 - 2.60 | - | 25,015 |
| Serial Bonds 7/1/22 - 1/1/30 | 1.80 - 2.55 | 22,140 | - |
| Term Bonds 7/1/32 | 2.80 | 6,730 | 6,730 |
| Term Bonds 7/1/34 | 3.00 | 7,215 | 7,215 |
| Term Bonds 7/1/39 | 3.20 | 12,650 | 13,440 |
| Term Bonds 7/1/42 | 3.35 | 8,155 | 8,665 |
| Term Bonds 1/1/50 (premium) | 4.00 | 35,775 | 42,175 |
| Premium (discount) | | 1,917 | 2,528 |
| Series 2019DE | | | |
| Serial Bonds 7/1/20 - 7/1/29 | 2.60 - 3.45 | - | 4,060 |
| Serial Bonds 7/1/22 - 7/1/29 | 2.65 - 3.45 | 3,575 | - |
| Term Bonds 7/1/33 | 3.70 | 2,705 | 2,705 |
| Term Bonds 7/1/39 | 4.00 | 3,050 | 3,050 |
| Term Bonds 1/1/50 | Variable | 12,265 | 12,265 |
| Series 2019F | | | |
| Serial Bonds 7/1/20 - 7/1/32 | 1.30 - 2.50 | - | 21,080 |
| Serial Bonds 7/1/22 - 7/1/32 | 1.40 - 2.50 | 19,630 | - |
| Term Bonds 7/1/34 | 2.70 | 4,085 | 4,085 |
| Term Bonds 7/1/39 | 2.95 | 9,540 | 10,040 |
| Term Bonds 7/1/43 | 3.05 | 8,065 | 9,080 |
| Term Bonds 7/1/50 (premium) | 3.75 | 18,920 | 22,770 |
| Premium (discount) | | 821 | 1,186 |
| Series 2020A | | | |
| Serial Bonds 1/1/21 - 7/1/32 | 1.20 - 2.45 | - | 26,030 |
| Serial Bonds 1/1/23 - 7/1/32 | 1.45 - 2.45 | 24,845 | - |
| Term Bonds 7/1/35 | 2.70 | 9,080 | 9,080 |
| Term Bonds 7/1/40 | 3.00 | 16,170 | 16,170 |
| Term Bonds 1/1/44 | 3.05 | 10,735 | 10,735 |
| Term Bonds 1/1/51 (premium) | 4.00 | 25,850 | 29,945 |
| Premium (discount) | | 1,221 | 1,696 |

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

| | Interest Rate | 2023 | 2022 |
|--|------------------|--------|-----------|
| Series 2020B | | | |
| Serial Bonds 7/1/21 - 7/1/32 | 0.20 - 2.05 | \$ - | \$ 33,920 |
| Serial Bonds 7/1/22 - 7/1/32 | 0.375 - 2.05 | 30,915 | - |
| Term Bonds 7/1/35 | 2.10 | 11,205 | 11,205 |
| Term Bonds 7/1/40 | 2.35 | 19,285 | 20,490 |
| Term Bonds 7/1/44 | 2.50 | 15,490 | 16,455 |
| Term Bonds 7/1/51 (premium) | 3.00 | 35,330 | 39,050 |
| Premium (discount) | | 1,961 | 2,671 |
| Series 2021A | | | |
| Serial Bonds 1/1/22 - 7/1/32 | 0.10 - 1.95 | - | 33,115 |
| Serial Bonds 7/1/22 - 7/1/32 | 0.20 - 1.95 | 30,125 | - |
| Serial Bonds 1/1/33 - 7/1/33 (premium) | 2.00 | 3,490 | 3,490 |
| Term Bonds 7/1/36 | 2.05 | 10,980 | 10,980 |
| Term Bonds 7/1/41 | 2.25 | 20,280 | 20,280 |
| Term Bonds 7/1/44 | 2.35 | 13,310 | 13,310 |
| Term Bonds 1/1/52 (premium) | 3.00 | 36,170 | 38,525 |
| Premium (discount) | | 2,266 | 2,993 |
| Series 2021 BC | | | |
| Serial Bonds 7/1/22 - 1/1/27 | 0.25 - 1.40 | 13,560 | 16,300 |
| Serial Bonds 1/1/27 - 7/1/33 | 1.10 - 2.20 | 28,460 | 28,460 |
| Term Bond 7/1/36 | 2.30 | 13,430 | 13,430 |
| Term Bonds 7/1/41 | 2.45 | 23,925 | 23,925 |
| Term Bonds 1/1/43 | 2.60 | 5,885 | 5,885 |
| Term Bonds 1/1/52 (premium) | 3.00 | 51,130 | 53,300 |
| Premium (discount) | | 3,154 | 3,938 |
| Series 2022A | | | |
| Serial Bonds 1/1/23 - 7/1/34 | 1.55 - 3.40 | 35,075 | 35,590 |
| Term Bonds 7/1/37 | 3.45 | 11,215 | 11,215 |
| Term Bonds 7/1/42 | 3.65 | 21,380 | 21,380 |
| Term Bonds 1/1/46 | 3.70 | 16,115 | 16,135 |
| Term Bonds 1/1/53 (premium) | 4.00 | 40,475 | 40,680 |
| Premium (discount) | | 1,610 | 2,029 |
| Series 2022BC | | | |
| Serial Bonds 1/1/23 - 7/1/29 | 2.39 - 3.60 | 28,940 | 30,000 |
| Term Bonds 1/1/50 | Variable | 30,000 | 30,000 |

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
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| | Interest Rate | 2023 | 2022 |
|---------------------------------------|------------------|---------------------|---------------------|
| Series 2022DE | | | |
| Serial Bonds 7/1/23 - 7/1/33 | 2.86 - 4.70 | \$ 15,485 | \$ 15,485 |
| Term Bonds 7/1/37 | 4.92 | 8,105 | 8,105 |
| Term Bonds 7/1/42 | 5.05 | 12,765 | 12,765 |
| Term Bonds 1/1/47 | 5.15 | 13,645 | 13,645 |
| Term Bonds 1/1/53 | Variable | 25,000 | 25,000 |
| Series 2022F | | | |
| Serial Bonds 7/1/23 - 7/1/34 | 1.55 - 3.85 | 17,455 | - |
| Term Bonds 7/1/37 | 3.95 | 6,135 | - |
| Term Bonds 7/1/42 | 4.10 | 12,425 | - |
| Term Bonds 1/1/47 | 4.25 | 14,150 | - |
| Term Bonds 1/1/53 (Premium) | 5.00 | 24,835 | - |
| Premium (Discount) | | 1,603 | - |
| Series 2023A | | | |
| Serial Bonds 1/1/24 - 7/1/35 | 2.65 - 4.15 | 29,720 | - |
| Term Bonds 7/1/38 | 4.45 | 10,380 | - |
| Term Bonds 7/1/43 | 4.60 | 21,280 | - |
| Term Bonds 7/1/47 | 4.70 | 20,990 | - |
| Term Bonds 7/1/53 (Premium) | 5.75 | 42,630 | - |
| Premium (Discount) | | 3,623 | - |
| Series 2023BC | | | |
| Serial Bonds 1/1/24 - 7/1/34 | 4.260 - 5.359 | 8,140 | - |
| Term Bonds 7/1/2039 | 5.45 | 5,135 | - |
| Term Bonds 7/1/2047 | Variable | 13,330 | - |
| Term Bonds 7/1/2053 (Premium) | 6.00 | 13,395 | - |
| Premium (Discount) | | 416 | - |
| 2022 Multifamily Revenue Bonds 9/1/25 | 2.45 | 5,000 | - |
| | | <u>\$ 1,600,377</u> | <u>\$ 1,479,607</u> |

The Agency is allowed to earn a mortgage yield of 1.125% more than the yield on the corresponding tax-exempt bonds. The Agency monitors the yield related to the bonds and mortgages to ensure the Agency is in compliance with the yield requirements.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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Revenues Pledged

The Agency has homeownership bonds outstanding in the amount of \$1,595,377 maturing at various times from July 1, 2023 through January 1, 2054. The bonds have been issued to provide financing to purchase mortgage loans. Annual principal and interest payments on the bonds are expected to require 98 percent of net revenues. Principal and interest paid for the current year and total customer net revenues were \$123,540 and \$33,300, respectively for the year ended June 30, 2023. Principal and interest paid for the year and total customer net revenues were \$266,540 and \$28,989, respectively for the year ended June 30, 2022.

Pursuant to the Series Resolutions adopted to date under the 1994 and 2009 General Resolutions, the revenues generated by the program loans (but not the program loans themselves) are pledged to secure the Bonds. The Agency is permitted by terms of the General Resolutions to issue bonds and to pledge revenues pursuant to the Series Resolution which exceed the amount required to meet the obligations of that series of bonds. In such event, it is likely that any such series of bonds would produce excess revenues which could be available to redeem the related series of bonds or any other series of bonds prior to the stated maturities thereof.

The Agency also had multifamily revenue bonds in the amount of \$5,000 that mature on September 1, 2025. The bonds have been issued to pay a portion of the cost of acquiring, rehabilitation and equipping a 182 unit scattered site multifamily rental housing development portfolio located in Grand Forks, North Dakota. The bonds will be payable solely from the revenues and other money assigned to secure the payment, which include payments required by the loan agreement. Such payment shall cover the entire principal and interest payment for the bond.

NOTE 13 FINANCIAL DERIVATIVE INSTRUMENT

Objective of the Interest Rate Swap

As a means to lower its borrowing costs, when compared against fixed-rate bonds at the time of issuance², the agency entered into several cash flow hedges or swaps in connection with various variable-rate housing bond series¹. All Agency cash flow hedges are pay-fixed. The intention of these swaps was to effectively change the Agency's interest rate on the bonds to a fixed rate⁶. The Agency also has cash flow hedges that were entered into in connection with variable-rate housing bond series that no longer have bonds outstanding as those bonds have been called. The cash flow hedges that are not connected to a specific bond series hedge the risk related to the Agency's other variable-rate housing bonds that are un-hedged.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Terms

The bonds and the related swap agreements have a stated issuance² and maturity date³. Some of the swaps have optional termination dates¹⁵. Under the swaps, the Agency pays the counterparty a fixed payment and receives a variable payment computed as a percent of the London Interbank Offered Rate (LIBOR) ⁷ plus a fixed percentage⁸ on the swap notional amount⁴. On the other hand, the bond's variable-rate⁹ coupons are determined by the remarketing agent. If for any reason the remarketing agent fails to act, the rate shall be the lesser of (i) the TBMA (Bond Market Association) Index plus 0.25% or (ii) the Maximum Rate as defined within the applicable series resolution. The net change in fair value of the individual swaps is presented in the terms table below¹⁴.

Credit Risk

As of June 30, 2023, the Agency had 11 swaps with a positive fair value totaling \$15,936. As of June 30, 2022, the Agency had eight swaps with a positive fair value totaling \$4,569. Of the swaps with negative fair value, the agency is not exposed to credit risk. However, the swap exposes the Agency to basis risk should the relationship between LIBOR and TBMA converge, changing the synthetic rate on the bonds. The swap counterparty has guaranteed all payments and is rated AAa/AA+/AAA by Moody's Investor Services, Standard & Poor's, and Fitch, respectively. To mitigate potential credit risk, the counterparty has entered into Credit Support Agreements with the Royal Bank of Canada and Wells Fargo as a credit enhancement.

The Agency has entered into netting arrangements whenever it has entered into more than one derivative instrument transaction with counterparties. Under the terms of these arrangements netting provisions permit each party to net the transactions' fair values so that a single sum will be owed by, or owed to, the other party. At June 30, 2023 the Agency owed the swap providers a fixed rate on the notional amount of the swaps of \$5,994 and the swap providers owed the Agency a variable rate on the notional amounts of \$9,499 making the net payment the Agency is owed from the swap providers \$3,505. At June 30, 2022 the Agency owed the swap providers a fixed rate on the notional amount of the swaps of \$5,476 and the swap providers owed the Agency a variable rate on the notional amounts of \$3,160 making the net payments the Agency owes the swap providers \$2,316.

Fair Value

Due to the difference in the variable rate indices, the swaps had a net positive fair value¹⁰ of \$15,936 and \$3,688 at June 30, 2023 and 2022, respectively. Accordingly, the financial derivative instrument is reported as a liability and the accumulated changes in fair value of the swaps were reported as a deferred inflow at June 30, 2023 and 2022. The coupon on the government's variable-rate bonds adjust to changing interest rates, the bonds do not have a corresponding fair value increase. All valuations are as of the valuation date indicated. Mid-Market or indicative unwind valuations may be derived from broker quotations or from proprietary models that take into consideration estimates about relevant present and future market conditions as well as the size and liquidity of the position and any related actual or potential hedging transactions. Valuations based on other models or different assumptions may yield different results.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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Basis Risk

The swap exposes the Agency to basis risk should the relationship between LIBOR and the actual variable rates converge, changing the synthetic rate on the bonds. The effect of this difference in basis is indicated by the difference between the intended synthetic rate⁶ and the synthetic rate¹² as of June 30, 2023 and 2022. If a change occurs that results in the rates' moving to convergence, the expected cost savings may not be realized.

Termination Risk

The derivative contract uses the International Swap Dealers Association Master Agreement, which includes standard termination events, such as failure to pay and bankruptcy. The Schedule to the Master Agreement includes an "additional termination event." That is, the swap may be terminated if counterparty's credit quality rating falls below "A3" as issued by Moody's Investors Service or "A-" as issued by Fitch Ratings or Standard & Poor's. The swap may be terminated at any time by the agency or the counterparty with 30 days written notice up to limits specified in the swap agreement. If the swap or swaps were terminated, the variable-rate bonds would no longer carry a synthetic interest rate. Also, if at the time of termination the swap has a negative fair value, the Agency would be liable to the counterparty for payment equal to the swap's fair value, but in the event the fair value is positive, the counterparty would be liable to the Agency.

Rollover Risk

The Agency is exposed to rollover risk on hedging derivative instruments that are hedges of debt that mature or may be terminated prior to the maturity of the hedged debt. When these hedging derivative instruments terminate, or in the case of a termination option, if the counterparty exercises its option, the Agency will be re-exposed to the risks being hedged by the hedging derivative instrument. The Agency also is exposed to rollover risk on the swaps that mature and the Agency does not call the related variable rate debt.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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The terms of the interest rate swaps at June 30, 2023 are as follows:

| | | | | | |
|----|---------------------------|------------|-----------|-----------|-----------|
| 1 | Bond Series | 2015 C | 2015 E | 2015 F | 2017C |
| 2 | Issuance Date | 6/23/2015 | 5/1/2016 | 12/8/2015 | 5/10/2017 |
| 3 | Maturity Date | 1/1/2046 | 7/1/2036 | 1/1/2047 | 7/1/2047 |
| 4 | Notional Amount | 11,745 | 18,840 | 14,235 | 20,545 |
| 5 | Variable-rate Bonds | 11,745 | 18,840 | 14,235 | 20,454 |
| 6 | Fixed Rate | 2.486% | 2.257% | 2.320% | 2.783% |
| 7 | LIBOR Percentage | 66.20% | 66.40% | 100.00% | 100.00% |
| 8 | Additional Percentage | 0.10% | 0.22% | 0.00% | 0.00% |
| 9 | Bonds Variable-rate | 0.91000% | 0.91000% | 1.65000% | 2.73904% |
| 10 | Fair Value | 702 | 1,018 | 1,580 | 1,993 |
| 11 | Percentage of LIBOR | 3.52282% | 3.65317% | 5.17043% | 5.17403% |
| 12 | Synthetic Rate | -0.12682% | -0.48617% | -1.20043% | 0.35111% |
| 13 | Actual Synthetic Rate | 2.99569% | 1.97825% | 2.29907% | 2.75171% |
| 14 | Change in Fair Value | 377 | 759 | 848 | 1,470 |
| 15 | Optional Termination Date | N/A | N/A | 1/1/2025 | 7/1/2027 |
| 1 | Bond Series | 2017H | 2018C | 2019B | 2019E |
| 2 | Issuance Date | 12/21/2017 | 6/14/2018 | 2/13/2019 | 6/25/2019 |
| 3 | Maturity Date | 7/1/2039 | 1/1/2049 | 1/1/2043 | 1/1/2050 |
| 4 | Notional Amount | 28,250 | 9,355 | 25,000 | 12,265 |
| 5 | Variable-rate Bonds | 28,250 | 9,355 | 25,000 | 12,265 |
| 6 | Fixed Rate | 2.266% | 3.515% | 2.693% | 3.171% |
| 7 | LIBOR Percentage | 66.40% | 100.00% | 70.00% | 100.00% |
| 8 | Additional Percentage | 0.09% | 0.00% | 0.00% | 0.00% |
| 9 | Bonds Variable-rate | 0.90000% | 1.60000% | 1.11000% | 1.60000% |
| 10 | Fair Value | 1,829 | 622 | 1,274 | 1,665 |
| 11 | Percentage of LIBOR | 3.52317% | 5.17043% | 3.61930% | 5.17043% |
| 12 | Synthetic Rate | -0.35717% | -0.05543% | 0.18320% | -0.39943% |
| 13 | Actual Synthetic Rate | 2.20287% | 3.49229% | 3.01912% | 3.17019% |
| 14 | Change in Fair Value | 1,331 | 783 | 763 | 1,148 |
| 15 | Optional Termination Date | 7/1/2023 | 7/1/2027 | 1/1/2024 | 7/1/2028 |
| 1 | Bond Series | 2022C | 2022E | 2023C | |
| 2 | Issuance Date | 4/28/2022 | 6/14/2022 | 2/16/2023 | |
| 3 | Maturity Date | 7/1/2052 | 1/1/2053 | 7/1/2047 | |
| 4 | Notional Amount | 30,000 | 25,000 | 13,330 | |
| 5 | Variable-rate Bonds | 30,000 | 25,000 | 13,330 | |
| 6 | Fixed Rate | 2.644% | 3.808% | 4.493% | |
| 7 | LIBOR Percentage | 100.00% | 100.00% | 100.00% | |
| 8 | Additional Percentage | 0.05% | 0.05% | 0.15% | |
| 9 | Bonds Variable-rate | 1.60000% | 1.60000% | 1.60000% | |
| 10 | Fair Value | 3,512 | 1,577 | 164 | |
| 11 | Percentage of LIBOR | 5.22043% | 5.22043% | 5.32043% | |
| 12 | Synthetic Rate | -0.97643% | 0.18757% | 0.77257% | |
| 13 | Actual Synthetic Rate | 2.62381% | 3.77559% | 4.30243% | |
| 14 | Change in Fair Value | 2,308 | 2,297 | 164 | |
| 15 | Optional Termination Date | 1/1/2032 | 1/1/2032 | 7/1/2028 | |

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
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The terms of the interest rate swaps at June 30, 2022 are as follows:

| | | | | | |
|----|---------------------------|------------|-----------|-----------|-----------|
| 1 | Bond Series | 2015 C | 2015 E | 2015 F | 2017C |
| 2 | Issuance Date | 6/23/2015 | 5/1/2016 | 12/8/2015 | 5/10/2017 |
| 3 | Maturity Date | 1/1/2046 | 7/1/2036 | 1/1/2047 | 7/1/2047 |
| 4 | Notional Amount | 12,690 | 19,800 | 15,765 | 20,545 |
| 5 | Variable-rate Bonds | 12,690 | 19,800 | 15,765 | 20,545 |
| 6 | Fixed Rate | 2.486% | 2.257% | 2.320% | 2.783% |
| 7 | LIBOR Percentage | 66.20% | 66.40% | 100.00% | 100.00% |
| 8 | Additional Percentage | 0.10% | 0.22% | 0.00% | 0.00% |
| 9 | Bonds Variable-rate | 0.91000% | 0.91000% | 1.65000% | 2.73904% |
| 10 | Fair Value | 325 | 259 | 732 | 523 |
| 11 | Percentage of LIBOR | 1.28280% | 1.40638% | 1.78671% | 1.78671% |
| 12 | Synthetic Rate | 2.11320% | 1.76062% | 2.18329% | 3.73483% |
| 13 | Actual Synthetic Rate | 2.99321% | 2.04854% | 2.30369% | 2.75609% |
| 14 | Change in Fair Value | 624 | 1,003 | 1,598 | 2,593 |
| 15 | Optional Termination Date | N/A | N/A | 1/1/2025 | 7/1/2027 |
| 1 | Bond Series | 2017H | 2018C | 2019B | 2019E |
| 2 | Issuance Date | 12/21/2017 | 6/14/2018 | 2/13/2019 | 6/25/2019 |
| 3 | Maturity Date | 7/1/2039 | 1/1/2049 | 1/1/2043 | 1/1/2050 |
| 4 | Notional Amount | 28,250 | 9,355 | 25,000 | 12,265 |
| 5 | Variable-rate Bonds | 28,250 | 9,355 | 25,000 | 12,265 |
| 6 | Fixed Rate | 2.266% | 3.515% | 2.693% | 3.171% |
| 7 | LIBOR Percentage | 66.40% | 100.00% | 70.00% | 100.00% |
| 8 | Additional Percentage | 0.09% | 0.00% | 0.00% | 0.00% |
| 9 | Bonds Variable-rate | 0.90000% | 1.60000% | 1.11000% | 1.60000% |
| 10 | Fair Value | 498 | (161) | 511 | 517 |
| 11 | Percentage of LIBOR | 1.27638% | 1.78671% | 1.25070% | 1.78671% |
| 12 | Synthetic Rate | 1.88962% | 3.32829% | 2.55180% | 2.98429% |
| 13 | Actual Synthetic Rate | 2.22646% | 3.50048% | 3.05666% | 3.18844% |
| 14 | Change in Fair Value | 2,185 | 1,290 | 1,906 | 2,009 |
| 15 | Optional Termination Date | 7/1/2023 | 7/1/2027 | 1/1/2024 | 7/1/2028 |
| 1 | Bond Series | 2022C | 2022E | | |
| 2 | Issuance Date | 4/28/2022 | 6/14/2022 | | |
| 3 | Maturity Date | 7/1/2052 | 1/1/2053 | | |
| 4 | Notional Amount | 30,000 | 25,000 | | |
| 5 | Variable-rate Bonds | 30,000 | 25,000 | | |
| 6 | Fixed Rate | 2.644% | 3.808% | | |
| 7 | LIBOR Percentage | 100.00% | 100.00% | | |
| 8 | Additional Percentage | 0.05% | 0.05% | | |
| 9 | Bonds Variable-rate | 1.60000% | 1.60000% | | |
| 10 | Fair Value | 1,204 | (720) | | |
| 11 | Percentage of LIBOR | 1.83671% | 1.83671% | | |
| 12 | Synthetic Rate | 2.40729% | 3.57129% | | |
| 13 | Actual Synthetic Rate | 2.78025% | 4.09642% | | |
| 14 | Change in Fair Value | 1,204 | (720) | | |
| 15 | Optional Termination Date | 1/1/2032 | 1/1/2032 | | |

NORTH DAKOTA HOUSING FINANCE AGENCY
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Swap Payments and Associated Debt

Using rates as of June 30, 2023, debt service requirements of the variable-rate debt and net swap payments are as follows. Interest calculations were based on rates as of June 30, 2023. As rates vary, variable-rate bond interest payments and net swap payments will vary.

| Fiscal year Ending June 30 | Variable-Rate Bond | | Interest Rate | Total |
|-------------------------------|--------------------|------------------|--------------------|-------------------|
| | Principal | Interest | Swap, Net | |
| 2024 | \$ 720 | \$ 3,041 | \$ (3,494) | \$ 267 |
| 2025 | 2,385 | 3,004 | (3,443) | 1,946 |
| 2026 | 3,175 | 2,929 | (3,359) | 2,745 |
| 2027 | 4,860 | 2,846 | (3,262) | 4,444 |
| 2028 | 4,575 | 2,766 | (3,166) | 4,175 |
| 2029 - 2033 | 40,525 | 12,139 | (13,620) | 39,044 |
| 2034 - 2038 | 52,620 | 8,809 | (9,157) | 52,272 |
| 2039 - 2043 | 46,015 | 5,609 | (5,430) | 46,194 |
| 2044 - 2048 | 29,310 | 3,039 | (2,883) | 29,466 |
| 2049 - 2053 | 24,380 | 773 | (717) | 24,436 |
| | <u>\$ 208,565</u> | <u>\$ 44,955</u> | <u>\$ (48,531)</u> | <u>\$ 204,989</u> |

NOTE 14 LINE OF CREDIT - BANK OF NORTH DAKOTA

The Agency has a line of credit with the Bank of North Dakota to fund mortgages. As of June 30, 2023, the line of credit has no outstanding balance, has a credit limit of \$60,000 and expires on July 1, 2024. The line of credit bears interest at 6.91%.

The Agency has a line of credit with the Bank of North Dakota to fund mortgages. As of June 30, 2022, the line of credit has no outstanding balance, has a credit limit of \$60,000 and expires on July 1, 2023. The line of credit bears interest at 3.87%.

The Agency did not make draws on this line of credit during the years ended June 30, 2023 and 2022.

NOTE 15 LETTER OF CREDIT - FEDERAL HOME LOAN BANK OF DES MOINES

The Agency maintains a collateral pledge agreement with the Federal Home Loan Bank (FHLB) covering secured advances whereby the Agency has agreed to retain residential real estate loans and marketable securities, free of all other pledges, liens and encumbrances. The pledged loans and securities are discounted by FHLB when determining their borrowing capacity. The aggregate borrowing capacity of eligible collateral was approximately \$36,137 as of June 30, 2023. In addition, borrowings are collateralized by \$54,902 of loans receivable and \$13 of cash and investments. The aggregate borrowing capacity of eligible collateral was approximately \$17,322 as of June 30, 2022. In addition, borrowings are collateralized by \$61,022 of loans receivable and \$146 of cash and investments.

NORTH DAKOTA HOUSING FINANCE AGENCY
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(In Thousands)

NOTE 16 PENSION PLAN

North Dakota Public Employees Retirement System (Main System)

The following brief description of NDPERS is provided for general information purposes only. Participants should refer to NDCC Chapter 54-52 for more complete information.

NDPERS is a cost-sharing multiple-employer defined benefit pension plan that covers substantially all employees of the State of North Dakota, its agencies and various participating political subdivisions. NDPERS provides for pension, death and disability benefits. The cost to administer the plan is financed through the contributions and investment earnings of the plan.

Responsibility for administration of the NDPERS defined benefit pension plan is assigned to a Board comprised of nine members. The Board consists of a Chairman, who is appointed by the Governor; one member appointed by the Attorney General; one member appointed by the State Health Officer; three members elected by the active membership of the NDPERS system; one member elected by the retired public employees, and two members of the legislative assembly appointed by the chairman of the legislative management.

Pension Benefits

Benefits are set by statute. NDPERS has no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Members of the Main System are entitled to unreduced monthly pension benefits beginning when the sum of age and years of credited service equal or exceed 85 (Rule of 85), or at normal retirement age (65). For members hired on or after January 1, 2016, the Rule of 85 was replaced with the Rule of 90 with a minimum age of 60. The monthly pension benefit is equal to 2.00% of their average monthly salary, using the highest 36 months out of the last 180 months of service, for each year of service. For members hired on or after January 1, 2020, the 2.00% multiplier was replaced with a 1.75% multiplier. The plan permits early retirement at ages 55-64 with three or more years of service. The Main Plan will be closed to new employees with the passage of House Bill 1040. The effective date is dependent upon NDPERS implementing the changes to set up a new defined contribution (DC) plan. If the DC plan is set up by December 31, 2023, then the effective date of the Main Plan closure will be January 1, 2024. If the changes cannot be accomplished by then, the effective date will be January 1, 2025.

Members may elect to receive the pension benefits in the form of a single life, joint and survivor, term-certain annuity, or partial lump sum with ongoing annuity. Members may elect to receive the value of their accumulated contributions, plus interest, as a lump sum distribution upon retirement or termination, or they may elect to receive their benefits in the form of an annuity. For each member electing an annuity, total payment will not be less than the members' accumulated contributions plus interest.

Death and Disability Benefits

Death and disability benefits are set by statute. If an active member dies with less than three years of service for the Main System, a death benefit equal to the value of the member's accumulated contributions, plus interest, is paid to the member's beneficiary. If the member has earned more than three years of credited service for the Main System, the surviving spouse will be entitled to a single payment refund, life-time monthly payments in an amount equal to 50% of

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the member's accrued normal retirement benefit, or monthly payments in an amount equal to the member's accrued 100% Joint and Survivor retirement benefit if the member had reached normal retirement age prior to date of death. If the surviving spouse dies before the member's accumulated pension benefits are paid, the balance will be payable to the surviving spouse's designated beneficiary.

Eligible members who become totally disabled after a minimum of 180 days of service, receive monthly disability benefits equal to 25% of their final average salary with a minimum benefit of \$100. To qualify under this section, the member has to become disabled during the period of eligible employment and apply for benefits within one year of termination. The definition for disabled is set by the NDPERS in the North Dakota Administrative Code.

Refunds of Member Account Balance

Upon termination, if a member of the Main System is not vested (is not 65 or does not have three years of service), they will receive the accumulated member contributions and vested employer contributions, plus interest, or may elect to receive this amount at a later date. If the member has vested, they have the option of applying for a refund or can remain as a terminated vested participant. If a member terminated and withdrew their accumulated member contribution and is subsequently reemployed, they have the option of repurchasing their previous service.

Member and Employer Contributions

Member and employer contributions paid to NDPERS are set by statute and are established as a percent of salaries and wages. Member contribution rates are 7% and employer contribution rates are 7.12% of covered compensation. For members hired on or after January 1, 2020 member contribution rates are 7% and employer contribution rates are 8.26% of covered compensation. Employer contribution rates increase by 1% beginning January 1, 2024.

The member's account balance includes the vested employer contributions equal to the member's contributions to an eligible deferred compensation plan. The minimum member contribution is \$25 and the maximum may not exceed the following:

- 1 to 12 months of service – Greater of one percent of monthly salary or \$25
- 13 to 24 months of service – Greater of two percent of monthly salary or \$25
- 25 to 36 months of service – Greater of three percent of monthly salary or \$25
- Longer than 36 months of service – Greater of four percent of monthly salary or \$25

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2023 and 2022, the Agency reported a liability of \$7,455 and \$2,418 for its proportionate share of the net pension liability, respectively. The net pension liability was measured as of **June 30, 2022** and 2021 and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. The Agency's proportion of the net pension liability was based on the Agency's share of covered payroll in the Main System pension plan relative to the covered payroll of all participating Main System employers. At **June 30, 2022**, the Agency's proportion was 0.258854 percent, which was an

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increase of 0.026830 percent from its proportion measured as of June 30, 2021.

For the year ended June 30, 2023, the Agency recognized pension expense of \$983. At June 30, 2023, the Agency reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

| | <u>Deferred Outflows of Resources</u> | <u>Deferred Inflows of Resources</u> |
|---|---|--|
| Differences between expected and actual experience | \$ 39 | \$ (142) |
| Changes of assumptions | 4,459 | (2,764) |
| Net difference between projected and actual earnings on pension plan investments | 273 | - |
| Changes in proportion and differences between employer contributions and proportionate share of contributions | 553 | (110) |
| Employer contributions subsequent to the measurement date | <u>242</u> | <u>-</u> |
| Total | <u>\$ 5,566</u> | <u>\$ (3,016)</u> |

\$242 reported as deferred outflows of resources related to pensions resulting from Agency contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ending June 30, 2024.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:

| | |
|------|--------|
| 2024 | \$ 635 |
| 2025 | 740 |
| 2026 | 182 |
| 2027 | 751 |

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Actuarial Assumptions

The total pension liability in the July 1, 2022 actuarial valuation was determined using the following assumptions, applied to all periods included in the measurement:

| | |
|----------------------------|------------------------------------|
| Inflation | 2.25% |
| Salary increases | 3.5% to 17.75% including inflation |
| Investment rate of return | 5.10%, net of investment expenses |
| Cost-of-living adjustments | None |

For active members, inactive members and healthy retirees, mortality rates were based on the Sex-distinct Pub-2010 table for General Employees, with scaling based on actual experience. Respective corresponding tables were used for healthy retirees, disabled retirees, and active members. Mortality rates are projected from 2010 using the MP-2019 scale.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Fund's target asset allocation is summarized in the following table:

| <u>Asset Class</u> | <u>Target Allocation</u> | <u>Long-Term Expected Real Rate of Return</u> |
|----------------------|--------------------------|---|
| Domestic Equity | 30% | 5.75% |
| International Equity | 21% | 6.45% |
| Private Equity | 7% | 9.20% |
| Domestic Fixed | 23% | 0.34% |
| Global Real Assets | 19% | 4.35% |

Discount Rate

For PERS, GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the System to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The current employer and employee fixed rate contributions are assumed to be made in each future year. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. In years where assets are not projected to be sufficient to meet benefit payments, which is the case for the PERS plan, the use of a municipal bond rate is required.

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The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) a tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.50%; the municipal bond rate is 3.69%; and the resulting Single Discount Rate is 5.10%.

Sensitivity of the Agency's proportionate share of the net pension liability to changes in the discount rate

The following presents the Agency's proportionate share of the net pension liability calculated using the discount rate of 5.10 percent, as well as what the Agency's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (4.10 percent) or 1-percentage-point higher (6.10 percent) than the current rate at June 30, 2023:

| | 1% Decrease | Current Discount Rate | 1% Increase |
|---|--------------------|----------------------------------|--------------------|
| | 4.10% | 5.10% | 6.10% |
| Employer's proportionate share of the net pension liability | \$ 9,840 | \$ 7,455 | \$ 5,497 |

Pension plan fiduciary net position

Detailed information about the pension plan's fiduciary net position is available in the separately issued NDPERS financial report. Requests to obtain or review this report should be addressed to the Executive Director – NDPERS, P.O. Box 1657, Bismarck, North Dakota 58502-1657.

NOTE 17 OPEB PLAN

North Dakota Public Employees Retirement System

The following brief description of NDPERS is provided for general information purposes only. Participants should refer to NDAC Chapter 71-06 for more complete information.

NDPERS OPEB plan is a cost-sharing multiple-employer defined benefit OPEB plan that covers members receiving retirement benefits from the PERS, the HPRS, and Judges retired under Chapter 27-17 of the North Dakota Century Code a credit toward their monthly health insurance premium under the state health plan based upon the member's years of credited service. Effective July 1, 2015, the credit is also available to apply towards monthly premiums under the state dental, vision and long-term care plan and any other health insurance plan. Effective August 1, 2019 the benefit may be used for any eligible health, prescription drug plan, dental, vision, or long term care plan premium expense. The Retiree Health Insurance Credit Fund is advance-funded on an actuarially determined basis.

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Responsibility for administration of the NDPERS defined benefit OPEB plan is assigned to a Board comprised of nine members. The Board consists of a Chairman, who is appointed by the Governor; one member appointed by the Attorney General; one member appointed by the State Health Officer; three members elected by the active membership of the NDPERS system, one member elected by the retired public employees and two members of the legislative assembly appointed by the chairman of the legislative management.

OPEB Benefits

The employer contribution for the PERS, the HPRS and the Defined Contribution Plan is set by statute at 1.14% of covered compensation. The employer contribution for employees of the state board of career and technical education is 2.99% of covered compensation for a period of eight years ending October 1, 2015. Employees participating in the retirement plan as part-time/temporary members are required to contribute 1.14% of their covered compensation to the Retiree Health Insurance Credit Fund. Employees purchasing previous service credit are also required to make an employee contribution to the Fund. The benefit amount applied each year is shown as "*prefunded credit applied*" on the Statement of Changes in Plan Net Position for the OPEB trust funds. Beginning January 1, 2020, members first enrolled in the NDPERS Main System and the Defined Contribution Plan on or after that date will not be eligible to participate in RHIC. Therefore, RHIC will become for the most part a closed plan. There were no other benefit changes during the year.

Retiree health insurance credit benefits and death and disability benefits are set by statute. There are no provisions or policies with respect to automatic and ad hoc post-retirement benefit increases. Employees who are receiving monthly retirement benefits from the PERS, the HPRS, the Defined Contribution Plan, the Chapter 27-17 judges or an employee receiving disability benefits, or the spouse of a deceased annuitant receiving a surviving spouse benefit or if the member selected a joint and survivor option are eligible to receive a credit toward their monthly health insurance premium under the state health plan.

Effective July 1, 2015, the credit is also available to apply towards monthly premiums under the state dental, vision and long-term care plan and any other health insurance plan. Effective August 1, 2019 the benefit may be used for any eligible health, prescription drug plan, dental, vision, or long term care plan premium expense. The benefits are equal to \$5.00 for each of the employee's, or deceased employee's years of credited service not to exceed the premium in effect for selected coverage. The retiree health insurance credit is also available for early retirement with reduced benefits.

OPEB Liabilities, OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

At June 30, 2023 and 2022, the Agency reported a liability of \$296 and \$128 for its proportionate share of the net OPEB liability, respectively. The net OPEB liability was measured as of **June 30, 2022** and 2021 and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of that date. The Employer's proportion of the net OPEB liability was based on the Employer's share of covered payroll in the OPEB plan relative to the covered payroll of all participating OPEB employers. At June 30, 2023, the Agency's proportion was 0.24650 percent, which is an increase of 0.016584 percent from its proportion measured as of **June 30, 2022**.

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For the year ended June 30, 2023, the Employer recognized OPEB expense of \$49. At June 30, 2023, the Employer reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|--|
| Differences between expected and actual experience | \$ 7 | \$ (2) |
| Changes of assumptions | 74 | - |
| Net difference between projected and actual earnings on OPEB plan investments | 40 | - |
| Changes in proportion and differences between employer contributions and proportionate share of contributions | 15 | (11) |
| Employer contributions subsequent to the measurement date | 30 | - |
| Total | \$ 166 | \$ (13) |

\$30 reported as deferred outflows of resources related to OPEB resulting from Agency contributions subsequent to the measurement date will be recognized as a reduction of the net OPEB liability in the year ending June 30, 2024.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEBs will be recognized in OPEB expense as follows:

| Year ending June 30: | | | |
|-----------------------------|--|----|----|
| 2024 | | \$ | 31 |
| 2025 | | | 29 |
| 2026 | | | 27 |
| 2027 | | | 36 |

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Actuarial assumptions

The total OPEB liability in the July 1, 2022 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|----------------------------|-----------------------------------|
| Inflation | 2.25% |
| Salary increases | Not applicable |
| Investment rate of return | 5.75%, net of investment expenses |
| Cost-of-living adjustments | None |

For active members, inactive members and healthy retirees, mortality rates were based on the MortalityPub-2010 Healthy Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 103% for males and 101% for females. Pub-2010 Disabled Retiree Mortality table (for General Employees), sex-distinct, with rates multiplied by 117% for males and 112% for females. Pub-2010 Employee Mortality table (for General Employees), sex-distinct, with rates multiplied by 92% for both males and females. Mortality rates are projected from 2010 using the MP-2019 scale.

The long-term expected investment rate of return assumption for the RHIC fund was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of RHIC investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Estimates of arithmetic real rates of return, for each major asset class included in the RHIC's target asset allocation as of July 1, 2022 is summarized in the following table:

| <u>Asset Class</u> | <u>Target Allocation</u> | <u>Long-Term Expected Real Rate of Return</u> |
|------------------------|--------------------------|---|
| Broad US Equities | 39% | 5.75% |
| International Equities | 26% | 6.00% |
| Core-Plus Fixed Income | 35% | 0.22% |

Discount Rate

The discount rate used to measure the total OPEB liability was 5.39%. The projection of cash flows used to determine the discount rate assumed plan member and statutory rates described in this report. For this purpose, only employer contributions that are intended to fund benefits of current RHIC members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries are not included. Based on those assumptions, the RHIC fiduciary net position was projected to be sufficient to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on RHIC investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

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Sensitivity of the Agency's Proportionate Share of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the Plans as of June 30, 2022, calculated using the discount rate of 5.39%, as well as what the RHIC net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (4.39 percent) or 1-percentage-point higher (6.39 percent) than the current rate:

| | 1% Decrease 4.39% | Current Discount Rate 5.39% | 1% Increase 6.39% |
|--|------------------------------|--|------------------------------|
| Employer's proportionate share of the net OPEB liability | \$ 378 | \$ 296 | \$ 227 |

OPEB Plan Fiduciary Net Position

Detailed information about the OPEB plan's fiduciary net position is available in the separately issued NDPERS financial report. Requests to obtain or review this report should be addressed to the Executive Director – NDPERS, P.O. Box 1657, Bismarck, North Dakota, 58502-1657.

NOTE 18 COMMITMENTS AND CONTINGENCIES

Amounts received from federal grantor agencies are subject to audit and adjustment by the federal grantor agencies. Any disallowed grant costs may constitute a liability. The amount, if any, of costs which may be disallowed by the grantor will be recognized in the year determined.

In the normal course of business, the Agency makes various commitments that are not reflected in the accompanying financial statements. These commitments include commitments to extend credit and the debt reduction required when related loan acquisition funds are not drawn down within prescribed time frames set by the specific bond resolutions.

The Agency's exposure to credit loss is represented by the contractual amount of these commitments. The Agency follows the same credit policies in making commitments as it does for on-balance-sheet instruments.

| | 2023 | 2022 |
|------------------------------|-----------|------------|
| Commitments to extend credit | \$ 87,542 | \$ 142,728 |
| Loan Acquisition Fund | \$ 67,935 | \$ 202,118 |

Commitments to extend credit are agreements to lend to a customer as long as there is no violation of any condition established in the contract. Commitments generally have fixed expiration dates or other termination clauses. Since many of the commitments may expire without being drawn upon, the total commitment amounts do not necessarily represent future cash requirements. The amount of collateral obtained, if it is deemed necessary by the Agency, is based on management's credit evaluation of the customer.

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The Bond resolutions require that the funds in the loan acquisition accounts be expended within 42 months of the related bond delivery date. Any remaining funds must be used for debt reductions.

As of June 30, 2023 and 2022, the Agency had outstanding guarantees on loans owned by financial institutions in the amount of \$0 and \$10, respectively.

NOTE 19 FUND NET POSITION

Based on certain bond covenants, all assets and fund net position of the Homeownership Bond fund are restricted for debt service.

The Agency operating fund has investment securities pledged under the 1994 and 2009 General Bond Resolutions. The financial statements identify this fund as unrestricted, however, all Agency net position is a reserved general obligation of the bond series. The general obligation (issuer) rating by Moody's Investor Service (a national financial rating service) is influenced by the relationship of Agency net position to several other financial statement factors and major investors monitor the amount of net position as additional collateral for the publicly traded bond investments.

NOTE 20 RISK MANAGEMENT

The Agency is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The following are funds/pools established by the State for risk management issues:

The 1995 Legislative Session established the Risk Management Fund (RMF), an internal service fund, to provide a self-insurance vehicle for funding the liability exposures of state agencies resulting from the elimination of the state's sovereign immunity. The RMF manages the tort liability of the state, its agencies' employees, and the University System. All state agencies participate in the RMF and their fund contribution was determined using a projected cost allocation approach. The statutory liability of the State is limited to a total of \$375 per person and \$1,000 per occurrence. The Agency is also covered through a casualty obligatory excess of loss reinsurance contract that RMF has with an outside party that provides additional coverage amount of \$250 per person and \$2,000 per occurrence.

The Agency also participates in the North Dakota Fire and Tornado Fund and the State Bonding Fund. The Agency pays an annual premium to the Fire and Tornado Fund to cover property damage to personal property. Replacement cost coverage is provided by estimating replacement cost in consultation with the Fire and Tornado Fund. The Fire and Tornado Fund is reinsured by a third party insurance carrier for losses in excess of one million dollars per occurrence during a twelve-month period. The State Bonding Fund currently provides the Agency with blanket fidelity bond coverage in the amount of \$2,000 for its employees. The State Bonding Fund does not currently charge any premium for this coverage. In addition to the State Bonding Fund, the Agency has a separate \$500 insurance policy with Great American Insurance Group.

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The Agency, as a contributor to RMF, participates in the North Dakota Workforce Safety & Insurance (NDWSI), an Enterprise Fund of the State of North Dakota. The NDWSI is a state insurance fund and a "no fault" insurance system covering the State's employers and employees financed by premiums assessed to employers. The premiums are available for the payment of claims to employees injured in the course of employment.

There have been no significant reductions in insurance coverage from the prior year and settled claims resulting from these risks have not exceeded insurance coverage in any of the past three fiscal years.

NOTE 21 SEGMENT INFORMATION

The Agency maintains two Enterprise Funds which provide loans to finance construction of residential housing and single family homeownership.

Statement of Net Position segment information as of and for the year ended June 30, 2023, was as follows:

| | Agency Operating Funds | Homeownership Bond Funds | Eliminations | Total Enterprise |
|--------------------------------|------------------------------|-----------------------------|----------------|---------------------|
| Statement of Net Position | | | | |
| Current assets - other | \$ 41,066 | \$ 238,914 | \$ (4,567) | \$ 275,413 |
| Capital assets - net | 121 | - | - | 121 |
| Noncurrent assets - other | 8,108 | 1,600,537 | - | 1,608,645 |
| Total assets | <u>49,295</u> | <u>1,839,451</u> | <u>(4,567)</u> | <u>1,884,179</u> |
| Deferred outflow of resources | <u>5,732</u> | <u>-</u> | <u>-</u> | <u>5,732</u> |
| Current liabilities - other | 24,716 | 86,315 | (4,567) | 106,464 |
| Noncurrent liabilities - other | 12,970 | 1,519,308 | - | 1,532,278 |
| Total liabilities | <u>37,686</u> | <u>1,605,623</u> | <u>(4,567)</u> | <u>1,638,742</u> |
| Deferred inflow of resources | <u>3,029</u> | <u>15,936</u> | <u>-</u> | <u>18,965</u> |
| Invested in capital assets | 112 | - | - | 112 |
| Net position - unrestricted | 14,200 | - | - | 14,200 |
| Net position - restricted | - | 217,892 | - | 217,892 |
| Total net position | <u>\$ 14,312</u> | <u>\$ 217,892</u> | <u>\$ -</u> | <u>\$ 232,204</u> |

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Statement of Net Position segment information as of and for the year ended June 30, 2022, was as follows:

| | Agency Operating Funds | Homeownership Bond Funds | Eliminations | Total Enterprise |
|--------------------------------|------------------------------|-----------------------------|----------------|---------------------|
| Statement of Net Position | | | | |
| Current assets - other | \$ 33,838 | \$ 334,649 | \$ (2,192) | \$ 366,295 |
| Capital assets - net | 133 | - | - | 133 |
| Noncurrent assets - other | 7,476 | 1,365,379 | - | 1,372,855 |
| Total assets | <u>41,447</u> | <u>1,700,028</u> | <u>(2,192)</u> | <u>1,739,283</u> |
| Deferred outflow of resources | 3,279 | - | - | 3,279 |
| Current liabilities - other | 19,416 | 65,285 | (2,192) | 82,509 |
| Noncurrent liabilities - other | 2,962 | 1,429,612 | - | 1,432,574 |
| Total liabilities | <u>22,378</u> | <u>1,494,897</u> | <u>(2,192)</u> | <u>1,515,083</u> |
| Deferred inflow of resources | 4,872 | 3,688 | - | 8,560 |
| Invested in capital assets | 117 | - | - | 117 |
| Net position - unrestricted | 17,359 | - | - | 17,359 |
| Net position - restricted | - | 201,443 | - | 201,443 |
| Total net position | <u>\$ 17,476</u> | <u>\$ 201,443</u> | <u>\$ -</u> | <u>\$ 218,919</u> |

Statement of Revenues, Expenses and Change in Fund Net Position and Statement of Cash Flows segment information as of and for the year ended June 30, 2023, was as follows:

| | Agency Operating Funds | Homeownership Bond Funds | Eliminations | Total Enterprise |
|--|------------------------------|-----------------------------|--------------|---------------------|
| Statement of Revenues, Expenses and Change in Fund Net Position | | | | |
| Operating revenues | | | | |
| Mortgage interest income | \$ 19 | \$ 49,703 | \$ - | \$ 49,722 |
| Investment income | - | 10,977 | - | 10,977 |
| Gain on sale of investments | (129) | (47) | - | (176) |
| Fee income | 11,421 | - | (6,573) | 4,848 |
| Depreciation | (32) | - | - | (32) |
| Other operating expenses | (10,036) | (48,739) | 6,573 | (52,202) |
| Operating income | <u>1,243</u> | <u>11,894</u> | <u>-</u> | <u>13,137</u> |
| Nonoperating revenues (expenses) | | | | |
| Federal grants | 22,117 | - | - | 22,117 |
| Non-federal grants | 113 | - | - | 113 |
| Investment income | 43 | - | - | 43 |
| Federal grants | (22,117) | - | - | (22,117) |
| Transfers | (8) | - | - | (8) |
| Change in net position | <u>1,391</u> | <u>11,894</u> | <u>-</u> | <u>13,285</u> |
| Total net position, beginning of year | 17,476 | 201,443 | - | 218,919 |
| Equity transfer in (out) | (4,555) | 4,555 | - | - |
| Total net position, end of year | <u>\$ 14,312</u> | <u>\$ 217,892</u> | <u>\$ -</u> | <u>\$ 232,204</u> |
| Statement of Cash Flows | | | | |
| Net cash used by operating activities | \$ 2,305 | \$ (200,649) | \$ - | \$ (198,344) |
| Net cash used for noncapital financing activities | 2,046 | 92,523 | - | 94,569 |
| Net cash used for capital and related financing activities | (232) | - | - | (232) |
| Net cash from (used by) investing activities | 1,208 | 5,920 | - | 7,128 |
| Change in cash and cash equivalents | <u>5,327</u> | <u>(102,206)</u> | <u>-</u> | <u>(96,879)</u> |
| Cash and cash equivalents, beginning of year | 30,672 | 295,662 | - | 326,334 |
| Cash and cash equivalents, end of year | <u>\$ 35,999</u> | <u>\$ 193,456</u> | <u>\$ -</u> | <u>\$ 229,455</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

Statement of Revenues, Expenses and Change in Fund Net Position and Statement of Cash Flows segment information as of and for the year ended June 30, 2022, was as follows:

| | Agency Operating Funds | Homeownership Bond Funds | Eliminations | Total Enterprise |
|---|------------------------------|-----------------------------|--------------|---------------------|
| Statement of Revenues, Expenses and | | | | |
| Change in Fund Net Position | | | | |
| Operating revenues | | | | |
| Mortgage interest income | \$ 25 | \$ 39,273 | \$ - | 39,298 |
| Investment income | - | 464 | - | 464 |
| Gain on sale of investments | - | (320) | - | (320) |
| Fee income | 10,604 | - | (5,680) | 4,924 |
| Depreciation | (8) | - | - | (8) |
| Other operating expenses | (8,604) | (38,985) | 5,680 | (41,909) |
| Operating income | <u>2,017</u> | <u>432</u> | <u>-</u> | <u>2,449</u> |
| Nonoperating revenues (expenses) | | | | |
| Federal grants | 15,065 | - | - | 15,065 |
| Non-federal grants | 128 | - | - | 128 |
| Investment income | (547) | - | - | (547) |
| Federal grants | (15,065) | - | - | (15,065) |
| Transfers | (22) | - | - | (22) |
| Change in net position | <u>1,576</u> | <u>432</u> | <u>-</u> | <u>2,008</u> |
| Total net position, beginning of year | 15,795 | 201,116 | - | 216,911 |
| Equity transfer in (out) | 105 | (105) | - | - |
| Total net position, end of year | <u>\$ 17,476</u> | <u>\$ 201,443</u> | <u>\$ -</u> | <u>\$ 218,919</u> |
| Statement of Cash Flows | | | | |
| Net cash by operating activities | \$ (2,326) | \$ (80,405) | \$ - | \$ (82,731) |
| Net cash used for noncapital financing activities | (256) | 112,661 | - | 112,405 |
| Net cash used for capital and related financing activities | (344) | - | - | (344) |
| Net cash from (used by) investing activities | 505 | (21,445) | - | (20,940) |
| Change in cash and cash equivalents | (2,421) | 10,811 | - | 8,390 |
| Cash and cash equivalents, beginning of year | 33,093 | 284,851 | - | 317,944 |
| Cash and cash equivalents, end of year | <u>\$ 30,672</u> | <u>\$ 295,662</u> | <u>\$ -</u> | <u>\$ 326,334</u> |

NOTE 22 ISSUED BUT NON-EFFECTIVE PRONOUNCEMENTS

GASB Statement No. 99, *Omnibus 2022*, provides guidance on the following accounting matters:

- Classification and reporting of derivative instruments within the scope of Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*, that do not meet the definition of either an investment derivative instrument or a hedging derivative instrument.
- Clarification of provisions in Statement No. 87, *Leases*, as amended, related to the determination of the lease term, classification of a lease as a short-term lease,

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

recognition and measurement of a lease liability and a lease asset, and identification of lease incentives.

- Clarification of provisions in Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, related to (a) the determination of the public-private and public-public partnership (PPP) term and (b) recognition and measurement of installment payments and the transfer of the underlying PPP asset.
- Clarification of provisions in Statement No. 96, *Subscription-Based Information Technology Arrangements*, related to the subscription-based information technology arrangement (SBITA) term, classification of a SBITA as a short-term SBITA, and recognition and measurement of a subscription liability.
- Extension of the period during which the London Interbank Offered Rate (LIBOR) is considered an appropriate benchmark interest rate for the qualitative evaluation of the effectiveness of an interest rate swap that hedges the interest rate risk of taxable debt.
- Accounting for the distribution of benefits as part of the Supplemental Nutrition Assistance Program (SNAP).
- Disclosures related to nonmonetary transactions.
- Pledges of future revenues when resources are not received by the pledging government.
- Clarification of provisions in Statement No. 34, *Basic Financial Statements— and Management's Discussion and Analysis—for State and Local Governments*, as amended, related to the focus of the government-wide financial statement.
- Terminology updates related to certain provisions of Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*.
- Terminology used in Statement 53 to refer to resource flows statements.

The requirements of this statement are effective as follows:

- The requirements related to extension of the use of LIBOR, accounting for SNAP distributions, disclosures of nonmonetary transactions, pledges of future revenues by pledging governments, clarification of certain provisions in Statement 34, as amended, and terminology updates related to Statement 53 and Statement 63 are effective upon issuance.
- The requirements related to leases, PPPs, and SBITAs are effective for fiscal years beginning after June 15, 2022, and all reporting periods thereafter.
- The requirements related to financial guarantees and the classification and reporting of derivative instruments within the scope of Statement 53 are effective for fiscal years beginning after June 15, 2023, and all reporting periods thereafter.

GASB Statement No. 100, *Accounting Changes and Error Corrections – An Amendment of GASB Statement No. 62*, provides guidance on accounting and financial reporting requirements for accounting changes and error corrections. Statement requires that (a) changes in accounting principles and error corrections be reported retroactively by restating prior periods, (b) changes to or within the financial reporting entity be reported by adjusting beginning

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

balances of the current period, and (c) changes in accounting estimates be reported prospectively by recognizing the change in the current period. The requirements of this Statement for changes in accounting principles apply to the implementation of a new pronouncement in absence of specific transition provisions in the new pronouncement. This Statement also requires that the aggregate amount of adjustments to and restatements of beginning net position, fund balance, or fund net position, as applicable, be displayed by reporting unit in the financial statements.

This Statement requires disclosure in notes to financial statements of descriptive information about accounting changes and error corrections, such as their nature. In addition, information about the quantitative effects on beginning balances of each accounting change and error correction should be disclosed by reporting unit in a tabular format to reconcile beginning balances as previously reported to beginning balances as restated. The requirements of this Statement are effective for accounting changes and error corrections made in fiscal years beginning after June 15, 2023, and all reporting periods thereafter. Earlier application is encouraged.

GASB Statement No. 101, *Compensated Absences*, provides guidance on the recognition and measurement guidance for compensated absences. This Statement requires that liabilities for compensated absences be recognized for (1) leave that has not been used and (2) leave that has been used but not yet paid in cash or settled through noncash means. A liability should be recognized for leave that has not been used if (a) the leave is attributable to services already rendered, (b) the leave accumulates, and (c) the leave is more likely than not to be used for time off or otherwise paid in cash or settled through noncash means. This Statement also requires that a liability for specific types of compensated absences not be recognized until the leave is used. This Statement also establishes guidance for measuring a liability for leave that has not been used, generally using an employee's pay rate as of the date of the financial statements. A liability for leave that has been used but not yet paid or settled should be measured at the amount of the cash payment or noncash settlement to be made. Certain salary-related payments that are directly and incrementally associated with payments for leave also should be included in the measurement of the liabilities. This Statement amends the existing requirement to disclose the gross increases and decreases in a liability for compensated absences to allow governments to disclose only the net change in the liability (as long as they identify it as a net change). In addition, governments are no longer required to disclose which governmental funds typically have been used to liquidate the liability for compensated absences. The requirements of this Statement are effective for fiscal years beginning after December 15, 2023, and all reporting periods thereafter. Earlier application is encouraged.

Management has not yet determined what effect these statements will have on the Agency's financial statements.

NOTE 23 SUBSEQUENT EVENTS

The Agency issued Series 2023DE Homeownership Revenue Bonds totaling \$200,000 in August 2023. The bonds have an interest rate ranging from 3.25% to 5.75% and mature between July 1, 2024 and January 1, 2054. Subsequent events have been evaluated through October 13, 2023, the date these financial statements were available to be issued.

NORTH DAKOTA HOUSING FINANCE AGENCY
REQUIRED SUPPLEMENTARY INFORMATION
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

North Dakota Public Employees Retirement System
Schedule of Employer's Share of Net Pension Liability
Last 10 Fiscal Years*

| | Employer's proportion of the net pension liability (asset) | Employer's proportionate share of the net pension liability (asset) | Employer's covered- employee payroll | Employer's proportionate share of the net pension liability (asset) as a percentage of its covered- employee payroll | Plan fiduciary net position as a percentage of the total pension liability |
|------|--|---|---|--|--|
| 2023 | 0.25885% | \$ 7,455 | \$ 2,973 | 250.76% | 54.47% |
| 2022 | 0.23202% | 2,418 | 2,604 | 92.87% | 78.26% |
| 2021 | 0.21535% | 6,775 | 2,426 | 279.27% | 48.91% |
| 2020 | 0.23548% | 2,760 | 2,443 | 112.98% | 71.66% |
| 2019 | 0.23697% | 4,000 | 2,510 | 159.36% | 62.80% |
| 2018 | 0.24299% | 3,906 | 2,481 | 157.44% | 61.98% |
| 2017 | 0.23284% | 2,269 | 2,346 | 96.72% | 70.46% |
| 2016 | 0.24345% | 1,655 | 2,169 | 76.30% | 77.15% |
| 2015 | 0.25277% | 1,604 | 2,129 | 75.34% | 77.70% |

North Dakota Public Employees Retirement System
Schedule of Employer Contributions - Pension
Last 10 Fiscal Years*

| | Statutorily required contribution | Contributions in relation to the statutorily required contribution | Contribution deficiency (excess) | Employer's covered- employee payroll | Contributions as a percentage of covered-employee payroll |
|------|---|---|--|---|--|
| 2023 | \$ 242 | \$ (242) | \$ - | \$ 3,281 | 7.38% |
| 2022 | 218 | (218) | - | 2,973 | 7.33% |
| 2021 | 188 | (188) | - | 2,604 | 7.22% |
| 2020 | 173 | (173) | - | 2,426 | 7.13% |
| 2019 | 174 | (174) | - | 2,443 | 7.12% |
| 2018 | 179 | (179) | - | 2,510 | 7.13% |
| 2017 | 180 | (180) | - | 2,474 | 7.28% |
| 2016 | 170 | (170) | - | 2,314 | 7.35% |
| 2015 | 165 | (165) | - | 2,229 | 7.40% |

*Complete data for these schedules is not available prior to 2015.

NORTH DAKOTA HOUSING FINANCE AGENCY
 REQUIRED SUPPLEMENTARY INFORMATION - CONTINUED
 FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
 (In Thousands)

**North Dakota Public Employees Retirement System
 Schedule of Employer's Share of Net OPEB Liability
 Last 10 Fiscal Years***

| | Employer's proportion of the net OPEB liability (asset) | Employer's proportionate share of the net OPEB liability (asset) | Employer's covered- employee payroll | Employer's proportionate share of the net OPEB liability (asset) as a percentage of its covered- employee payroll | Plan fiduciary net position as a percentage of the total OPEB liability |
|------|--|--|---|---|---|
| 2023 | 0.246500% | 296 | 2,576 | 11.49% | 56.28% |
| 2022 | 0.229916% | 128 | 2,520 | 5.07% | 76.63% |
| 2021 | 0.211870% | 178 | 2,415 | 7.37% | 63.38% |
| 2020 | 0.235151% | 189 | 2,618 | 7.22% | 63.13% |
| 2019 | 0.241393% | 190 | 2,661 | 7.15% | 61.89% |
| 2018 | 0.241038% | 191 | 2,608 | 7.31% | 58.78% |

**North Dakota Public Employees Retirement System
 Schedule of Employer Contributions - OPEB
 Last 10 Fiscal Years***

| | Statutorily required contribution | Contributions in relation to the statutorily required contribution | Contribution deficiency (excess) | Employer's covered- employee payroll | Contributions as a percentage of covered-employee payroll |
|------|---|---|--|---|--|
| 2023 | \$ 30 | \$ (30) | \$ - | \$ 2,643 | 1.14% |
| 2022 | 29 | (29) | - | 2,576 | 1.14% |
| 2021 | 29 | (29) | - | 2,520 | 1.15% |
| 2020 | 29 | (29) | - | 2,580 | 1.12% |
| 2019 | 30 | (30) | - | 2,618 | 1.15% |
| 2018 | 30 | (30) | - | 2,661 | 1.13% |

*Complete data for these schedules is not available prior to 2018.

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTE TO REQUIRED SUPPLEMENTARY INFORMATION
JUNE 30, 2023 AND 2022
(In Thousands)

NOTE 1 CHANGE OF BENEFIT TERMS AND ASSUMPTIONS

NDPERS Pension Plan

Change of Benefit Terms

The interest rate earned on member contributions decreased from 6.50 percent to 6.00 percent effective January 1, 2023 (based on the adopted decrease in the investment return assumption). New Main System members who are hired on or after January 1, 2020 will have a benefit multiplier of 1.75 percent (compared to the current benefit multiplier of 2.00 percent). The fixed employer contribution for new members of the Main System increased from 7.12 percent to 8.26 percent. For members who terminate after December 31, 2019, final average salary is the higher of the final average salary calculated on December 31, 2019 or the average salary earned in the three highest periods of twelve consecutive months employed during the last 180 months of employment. There have been no other changes in plan provisions since the previous actuarial valuation as of July 1, 2020.

Changes of Assumptions.

The investment return assumption was updated from 7.00% to 6.50% beginning with the actuarial valuation as of July 1, 2022. All other actuarial assumptions used in the actuarial valuation as of July 1, 2022 were based on an experience review for the period from July 1, 2014 to July 1, 2019, and were adopted for first use commencing with the actuarial valuation as of July 1, 2020.

NDPERS OPEB

Changes of Benefit Terms

Beginning January 1, 2020, members first enrolled in the NDPERS Main System and the Defined Contribution Plan on or after that date will not be eligible to participate in RHIC. Therefore, RHIC will become for the most part a closed plan. There have been no other changes in plan provisions since the previous actuarial valuation as of July 1, 2020.

Changes of Assumptions.

The investment return assumption was updated from 6.50% to 5.75% beginning with the actuarial valuation as of July 1, 2022. All actuarial assumptions and the actuarial cost method are unchanged from the last actuarial valuation as of July 1, 2021.

NORTH DAKOTA HOUSING FINANCE AGENCY
COMBINING STATEMENTS OF NET POSITION
JUNE 30, 2023 AND 2022
(In Thousands)

| | Agency Operating Funds | Homeownership Bond Funds | | Homeownership Bond Funds | Total | Elimination | Total | |
|--|------------------------------|----------------------------|----------------------------|-----------------------------|------------------|----------------|------------------|------------------|
| | | 1994 General Resolution | 2009 General Resolution | | | | 2023 | 2022 |
| ASSETS | | | | | | | | |
| CURRENT ASSETS - UNRESTRICTED | | | | | | | | |
| Cash and cash equivalents | \$ 12,089 | \$ - | \$ - | \$ - | \$ 12,089 | \$ - | \$ 12,089 | \$ 14,436 |
| Receivables | | | | | | | | |
| Interest | | | | | | | | |
| Loans | 2 | - | - | - | 2 | - | 2 | 1 |
| Investments | 82 | - | - | - | 82 | - | 82 | 26 |
| Due from HUD | 844 | - | - | - | 844 | - | 844 | 260 |
| Other | 2,949 | - | - | - | 2,949 | (1,327) | 1,622 | 1,048 |
| Current portion of service release premium | 1,086 | - | - | - | 1,086 | - | 1,086 | 936 |
| Prepaid expenses | 71 | 28 | - | 28 | 99 | - | 99 | 85 |
| Total unrestricted current assets | <u>17,123</u> | <u>28</u> | <u>-</u> | <u>28</u> | <u>17,151</u> | <u>(1,327)</u> | <u>15,824</u> | <u>16,792</u> |
| CURRENT ASSETS - RESTRICTED | | | | | | | | |
| Cash and cash equivalents | 23,910 | 187,617 | 5,839 | 193,456 | 217,366 | - | 217,366 | 311,898 |
| Receivables | | | | | | | | |
| Current portion of loans receivable, net of allowance | 33 | 33,625 | 2,069 | 35,694 | 35,727 | - | 35,727 | 32,457 |
| Interest | | | | | | | | |
| Loans | - | 4,912 | 184 | 5,096 | 5,096 | - | 5,096 | 4,525 |
| Investments | - | 1,368 | 32 | 1,400 | 1,400 | - | 1,400 | 622 |
| Other | - | 3,032 | 208 | 3,240 | 3,240 | (3,240) | - | 1 |
| Total restricted current assets | <u>23,943</u> | <u>230,554</u> | <u>8,332</u> | <u>238,886</u> | <u>262,829</u> | <u>(3,240)</u> | <u>259,589</u> | <u>349,503</u> |
| Total current assets | <u>41,066</u> | <u>230,582</u> | <u>8,332</u> | <u>238,914</u> | <u>279,980</u> | <u>(4,567)</u> | <u>275,413</u> | <u>366,295</u> |
| NONCURRENT ASSETS - UNRESTRICTED | | | | | | | | |
| Service release premium, net | 7,361 | - | - | - | 7,361 | - | 7,361 | 6,507 |
| Equipment, net | 121 | - | - | - | 121 | - | 121 | 133 |
| Leased asset, net | 433 | - | - | - | 433 | - | 433 | 624 |
| Total noncurrent assets | <u>7,915</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>7,915</u> | <u>-</u> | <u>7,915</u> | <u>7,264</u> |
| NONCURRENT ASSETS - RESTRICTED | | | | | | | | |
| Loans receivable, net of current portion, net of allowance | 314 | 1,482,628 | 57,453 | 1,540,081 | 1,540,395 | - | 1,540,395 | 1,295,706 |
| Investments | - | 57,381 | 3,075 | 60,456 | 60,456 | - | 60,456 | 70,018 |
| Total restricted noncurrent assets | <u>314</u> | <u>1,540,009</u> | <u>60,528</u> | <u>1,600,537</u> | <u>1,600,851</u> | <u>-</u> | <u>1,600,851</u> | <u>1,365,724</u> |
| Total noncurrent assets | <u>8,229</u> | <u>1,540,009</u> | <u>60,528</u> | <u>1,600,537</u> | <u>1,608,766</u> | <u>-</u> | <u>1,608,766</u> | <u>1,372,988</u> |
| Total assets | <u>49,295</u> | <u>1,770,591</u> | <u>68,860</u> | <u>1,839,451</u> | <u>1,888,746</u> | <u>(4,567)</u> | <u>1,884,179</u> | <u>1,739,283</u> |
| DEFERRED OUTFLOWS OF RESOURCES | | | | | | | | |
| Deferred outflow - pension | 5,566 | - | - | - | 5,566 | - | 5,566 | 3,213 |
| Deferred outflow - OPEB | 166 | - | - | - | 166 | - | 166 | 66 |
| Total deferred outflows of resources | <u>5,732</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>5,732</u> | <u>-</u> | <u>5,732</u> | <u>3,279</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
COMBINING STATEMENTS OF NET POSITION - CONTINUED
JUNE 30, 2023 AND 2022
(In Thousands)

| | Agency Operating Funds | Homeownership Bond Funds | | Homeownership Bond Funds | Total | Elimination | Total | |
|---|------------------------------|----------------------------|----------------------------|--------------------------------|-------------------|----------------|-------------------|-------------------|
| | | 1994 General Resolution | 2009 General Resolution | | | | 2023 | 2022 |
| LIABILITIES | | | | | | | | |
| CURRENT LIABILITIES | | | | | | | | |
| Due to HUD | \$ 30 | \$ - | \$ - | \$ - | \$ 30 | \$ - | \$ 30 | \$ 20 |
| Due to State Agencies | 433 | - | - | - | 433 | - | 433 | 403 |
| Other | 5,012 | 1,276 | 900 | 2,176 | 7,188 | (4,567) | 2,621 | 1,258 |
| Current portion of compensated absences | 376 | - | - | - | 376 | - | 376 | 378 |
| Current portion of bonds payable, net of premium | - | 57,328 | 2,805 | 60,133 | 60,133 | - | 60,133 | 46,307 |
| Accrued interest | 41 | 23,368 | 638 | 24,006 | 24,047 | - | 24,047 | 17,971 |
| Funds held in trust | 18,824 | - | - | - | 18,824 | - | 18,824 | 16,172 |
| Total current liabilities | 24,716 | 81,972 | 4,343 | 86,315 | 111,031 | (4,567) | 106,464 | 82,509 |
| NONCURRENT LIABILITIES | | | | | | | | |
| Net pension liability | 7,455 | - | - | - | 7,455 | - | 7,455 | 2,418 |
| Net OPEB liability | 296 | - | - | - | 296 | - | 296 | 128 |
| Financial derivative instrument | - | (15,936) | - | (15,936) | (15,936) | - | (15,936) | (3,688) |
| Bonds payable, net of current portion and premium | 5,000 | 1,492,988 | 42,256 | 1,535,244 | 1,540,244 | - | 1,540,244 | 1,433,300 |
| Other | 219 | - | - | - | 219 | - | 219 | 416 |
| Total noncurrent liabilities | 12,970 | 1,477,052 | 42,256 | 1,519,308 | 1,532,278 | - | 1,532,278 | 1,432,574 |
| Total liabilities | 37,686 | 1,559,024 | 46,599 | 1,605,623 | 1,643,309 | (4,567) | 1,638,742 | 1,515,083 |
| DEFERRED INFLOWS OF RESOURCES | | | | | | | | |
| Deferred inflow - pension | 3,016 | - | - | - | 3,016 | - | 3,016 | 4,810 |
| Deferred inflow - OPEB | 13 | - | - | - | 13 | - | 13 | 62 |
| Financial derivative instrument | - | 15,936 | - | 15,936 | 15,936 | - | 15,936 | 3,688 |
| Total deferred inflows of resources | 3,029 | 15,936 | - | 15,936 | 18,965 | - | 18,965 | 8,560 |
| NET POSITION | | | | | | | | |
| Invested in capital assets | 112 | - | - | - | 112 | - | 112 | 117 |
| Restricted for debt service | - | 195,631 | 22,261 | 217,892 | 217,892 | - | 217,892 | 201,443 |
| Unrestricted | 14,200 | - | - | - | 14,200 | - | 14,200 | 17,359 |
| Total net position | \$ 14,312 | \$ 195,631 | \$ 22,261 | \$ 217,892 | \$ 232,204 | \$ - | \$ 232,204 | \$ 218,919 |

NORTH DAKOTA HOUSING FINANCE AGENCY
COMBINING STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN FUND NET POSITION
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

| | Agency Operating Funds | Homeownership Bond Funds | | Homeownership Bond Funds | Total | Elimination | Total | |
|--|------------------------------|----------------------------|----------------------------|-----------------------------|-------------------|----------------|-------------------|-------------------|
| | | 1994 General Resolution | 2009 General Resolution | | | | 2023 | 2022 |
| OPERATING REVENUES | | | | | | | | |
| Mortgage interest income | \$ 19 | \$ 47,492 | \$ 2,211 | \$ 49,703 | \$ 49,722 | \$ - | \$ 49,722 | \$ 39,298 |
| Investment income | - | 10,848 | 129 | 10,977 | 10,977 | - | 10,977 | 464 |
| Gain (loss) on sale of investments | (129) | (47) | - | (47) | (176) | - | (176) | (320) |
| Fee income | 11,421 | - | - | - | 11,421 | (6,573) | 4,848 | 4,924 |
| Total revenues | <u>11,311</u> | <u>58,293</u> | <u>2,340</u> | <u>60,633</u> | <u>71,944</u> | <u>(6,573)</u> | <u>65,371</u> | <u>44,366</u> |
| OPERATING EXPENSES | | | | | | | | |
| Interest expense | 15 | 38,305 | 1,073 | 39,378 | 39,393 | - | 39,393 | 29,156 |
| Agency grants | 80 | - | - | - | 80 | - | 80 | 215 |
| Administrative and operating expenses | 8,593 | 9,074 | 287 | 9,361 | 17,954 | (6,573) | 11,381 | 11,931 |
| Pension expense | 1,092 | - | - | - | 1,092 | - | 1,092 | 384 |
| OPEB expense | 49 | - | - | - | 49 | - | 49 | 15 |
| Amortization | 207 | - | - | - | 207 | - | 207 | 208 |
| Depreciation | 32 | - | - | - | 32 | - | 32 | 8 |
| Total expenses | <u>10,068</u> | <u>47,379</u> | <u>1,360</u> | <u>48,739</u> | <u>58,807</u> | <u>(6,573)</u> | <u>52,234</u> | <u>41,917</u> |
| OPERATING INCOME | <u>1,243</u> | <u>10,914</u> | <u>980</u> | <u>11,894</u> | <u>13,137</u> | <u>-</u> | <u>13,137</u> | <u>2,449</u> |
| NONOPERATING REVENUE (EXPENSES) | | | | | | | | |
| Federal grants | 22,117 | - | - | - | 22,117 | - | 22,117 | 15,065 |
| Non-federal grants | 113 | - | - | - | 113 | - | 113 | 128 |
| Investment income (loss) | 43 | - | - | - | 43 | - | 43 | (547) |
| Federal grants | (22,117) | - | - | - | (22,117) | - | (22,117) | (15,065) |
| Total nonoperating revenues (expenses) | <u>156</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>156</u> | <u>-</u> | <u>156</u> | <u>(419)</u> |
| CHANGE IN ASSETS BEFORE TRANSFERS | <u>1,399</u> | <u>10,914</u> | <u>980</u> | <u>11,894</u> | <u>13,293</u> | <u>-</u> | <u>13,293</u> | <u>2,030</u> |
| TRANSFERS | | | | | | | | |
| Transfer to Industrial Commission | (8) | - | - | - | (8) | - | (8) | (22) |
| CHANGE IN NET POSITION | <u>1,391</u> | <u>10,914</u> | <u>980</u> | <u>11,894</u> | <u>13,285</u> | <u>-</u> | <u>13,285</u> | <u>2,008</u> |
| TOTAL NET POSITION, BEGINNING OF YEAR | 17,476 | 180,285 | 21,158 | 201,443 | 218,919 | - | 218,919 | 216,911 |
| TRANSFER IN (OUT) | <u>(4,555)</u> | <u>4,432</u> | <u>123</u> | <u>4,555</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> |
| TOTAL NET POSITION, END OF YEAR | <u>\$ 14,312</u> | <u>\$ 195,631</u> | <u>\$ 22,261</u> | <u>\$ 217,892</u> | <u>\$ 232,204</u> | <u>\$ -</u> | <u>\$ 232,204</u> | <u>\$ 218,919</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
COMBINING STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

| | Agency Operating Funds | Homeownership Bond Funds | | Homeownership Bond Funds | Total | Elimination | Total | |
|--|------------------------------|----------------------------|----------------------------|-----------------------------|------------------|-------------|------------------|-----------------|
| | | 1994 General Resolution | 2009 General Resolution | | | | 2023 | 2022 |
| OPERATING ACTIVITIES | | | | | | | | |
| Receipts from customers | \$ 16,246 | \$ 293,945 | \$ 10,340 | \$ 304,285 | \$ 320,531 | \$ (4,198) | \$ 316,333 | \$ 248,062 |
| Proceeds from sale of loans receivable | - | - | - | - | - | - | - | 28,880 |
| Interfund mortgages loan purchases and sales | - | (249,289) | - | (249,289) | (249,289) | - | (249,289) | (142,611) |
| Grant funds received in advance | (655) | - | - | - | (655) | - | (655) | - |
| Payment of grants | - | - | - | - | - | - | - | (307) |
| Payments to service providers | | | | | | | | |
| State agencies | (5,119) | - | - | - | (5,119) | - | (5,119) | (4,673) |
| Mortgage loan purchases | - | (242,357) | - | (242,357) | (242,357) | - | (242,357) | (197,971) |
| Other | (3,459) | (13,712) | 424 | (13,288) | (16,747) | 4,198 | (12,549) | (9,883) |
| Payments to employees | (4,708) | - | - | - | (4,708) | - | (4,708) | (4,228) |
| Net cash provided by (used for) operating activities | <u>2,305</u> | <u>(211,413)</u> | <u>10,764</u> | <u>(200,649)</u> | <u>(198,344)</u> | <u>-</u> | <u>(198,344)</u> | <u>(82,731)</u> |
| NONCAPITAL FINANCING ACTIVITIES | | | | | | | | |
| Principal payments on bonds payable | - | (112,500) | (11,040) | (123,540) | (123,540) | - | (123,540) | (266,540) |
| Proceeds from bond issuance | 5,000 | 246,304 | - | 246,304 | 251,304 | - | 251,304 | 407,828 |
| Interest paid on loans and bonds | 41 | (32,098) | (1,243) | (33,341) | (33,300) | - | (33,300) | (28,989) |
| Proceeds from non-federal grants | 113 | - | - | - | 113 | - | 113 | 128 |
| Proceeds from federal grants | 22,117 | - | - | - | 22,117 | - | 22,117 | 15,065 |
| Payment of federal grants | (22,117) | - | - | - | (22,117) | - | (22,117) | (15,065) |
| Transfers to Industrial Commission | (8) | - | - | - | (8) | - | (8) | (22) |
| Interfund transfer in (out) | (3,100) | 3,100 | - | 3,100 | - | - | - | - |
| Net cash provided by (used for) noncapital financing activities | <u>2,046</u> | <u>104,806</u> | <u>(12,283)</u> | <u>92,523</u> | <u>94,569</u> | <u>-</u> | <u>94,569</u> | <u>112,405</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
COMBINING STATEMENTS OF CASH FLOWS - CONTINUED
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

| | Agency Operating Funds | Homeownership Bond Funds | | Homeownership Bond Funds | Total | Elimination | Total | |
|---|------------------------------|----------------------------|----------------------------|-----------------------------|-------------------|-------------|-------------------|-------------------|
| | | 1994 General Resolution | 2009 General Resolution | | | | 2023 | 2022 |
| CAPITAL AND RELATED FINANCING ACTIVITIES | | | | | | | | |
| Purchase of equipment | \$ (19) | \$ - | \$ - | \$ - | \$ (19) | \$ - | \$ (19) | \$ (131) |
| Principal payments on lease payable | (198) | - | - | - | (198) | - | (198) | (192) |
| Interest paid on lease payable | (15) | - | - | - | (15) | - | (15) | (21) |
| Net cash used for capital and related financing activities | <u>\$ (232)</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ (232)</u> | <u>\$ -</u> | <u>\$ (232)</u> | <u>\$ (344)</u> |
| INVESTING ACTIVITIES | | | | | | | | |
| Purchase of investments | (3,375) | 41 | - | 41 | (3,334) | - | (3,334) | (42,204) |
| Proceeds from sale of investments | 4,292 | 5,485 | 394 | 5,879 | 10,171 | - | 10,171 | 21,122 |
| Interest received from investments | 291 | - | - | - | 291 | - | 291 | 142 |
| Net cash provided by (used for) investing activities | <u>1,208</u> | <u>5,526</u> | <u>394</u> | <u>5,920</u> | <u>7,128</u> | <u>-</u> | <u>7,128</u> | <u>(20,940)</u> |
| NET CHANGE IN CASH AND CASH EQUIVALENTS | <u>5,327</u> | <u>(101,081)</u> | <u>(1,125)</u> | <u>(102,206)</u> | <u>(96,879)</u> | <u>-</u> | <u>(96,879)</u> | <u>8,390</u> |
| CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR | <u>30,672</u> | <u>288,698</u> | <u>6,964</u> | <u>295,662</u> | <u>326,334</u> | <u>-</u> | <u>326,334</u> | <u>317,944</u> |
| CASH AND CASH EQUIVALENTS AT END OF YEAR | <u>\$ 35,999</u> | <u>\$ 187,617</u> | <u>\$ 5,839</u> | <u>\$ 193,456</u> | <u>\$ 229,455</u> | <u>\$ -</u> | <u>\$ 229,455</u> | <u>\$ 326,334</u> |
| Cash and Cash Equivalents - Unrestricted | \$ 12,089 | \$ - | \$ - | \$ - | \$ 12,089 | \$ - | \$ 12,089 | \$ 14,436 |
| Cash and Cash Equivalents - Restricted | 23,910 | 187,617 | 5,839 | 193,456 | 217,366 | - | 217,366 | 311,898 |
| | <u>\$ 35,999</u> | <u>\$ 187,617</u> | <u>\$ 5,839</u> | <u>\$ 193,456</u> | <u>\$ 229,455</u> | <u>\$ -</u> | <u>\$ 229,455</u> | <u>\$ 326,334</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
COMBINING STATEMENTS OF CASH FLOWS - CONTINUED
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022
(In Thousands)

| | Agency Operating Funds | Homeownership Bond Funds | | Homeownership Bond Funds | Total | Elimination | Total | |
|---|------------------------------|----------------------------|----------------------------|-----------------------------|--------------|-------------|--------------|-------------|
| | | 1994 General Resolution | 2009 General Resolution | | | | 2023 | 2022 |
| RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH PROVIDED BY (USED FOR) OPERATING ACTIVITIES | | | | | | | | |
| Operating income (loss) | \$ 1,243 | \$ 10,914 | \$ 980 | \$ 11,894 | \$ 13,137 | \$ - | \$ 13,137 | \$ 2,449 |
| Adjustments to reconcile operating income to net cash from operating activities: | | | | | | | | |
| Depreciation | 32 | - | - | - | 32 | - | 32 | 8 |
| Amortization | | | | | | | | |
| Original issue discounts and premiums | - | (6,698) | (295) | (6,993) | (6,993) | - | (6,993) | (6,888) |
| Service release premiums | 1,589 | - | - | - | 1,589 | - | 1,589 | 1,921 |
| Leased assets | 207 | - | - | - | 207 | - | 207 | 208 |
| (Increase) decrease in fair value of investments | - | 2,290 | 130 | 2,420 | 2,420 | - | 2,420 | 4,591 |
| Reclassification of interest expense to other activities | 15 | 37,543 | 1,056 | 38,599 | 38,614 | - | 38,614 | 28,973 |
| Effect on cash flows due to changes in: | | | | | | | | |
| Deferred outflow - pension | (2,353) | - | - | - | (2,353) | - | (2,353) | 863 |
| Deferred outflow - OPEB | (100) | - | - | - | (100) | - | (100) | 5 |
| Deferred inflows - pension | (1,794) | - | - | - | (1,794) | - | (1,794) | 3,610 |
| Deferred inflows - OPEB | (49) | - | - | - | (49) | - | (49) | 39 |
| Effect on cash flows due to changes in: | | | | | | | | |
| Due from HUD | (585) | - | - | - | (585) | - | (585) | (44) |
| Due from State Agencies | - | - | - | - | - | - | - | 57 |
| Service release premium | (2,593) | - | - | - | (2,593) | - | (2,593) | (2,408) |
| Other receivables | (1,097) | (1,653) | (199) | (1,852) | (2,949) | 2,375 | (574) | (189) |
| Prepaid expenses | (11) | (2) | - | (2) | (13) | - | (13) | (18) |
| Loan interest receivable | - | (637) | 67 | (570) | (570) | - | (570) | 534 |
| Loans receivable | 29 | (255,993) | 8,002 | (247,991) | (247,962) | - | (247,962) | (108,910) |
| Due to HUD | 10 | - | - | - | 10 | - | 10 | (48) |
| Due to State Agencies | 30 | - | - | - | 30 | - | 30 | 50 |
| Other liabilities | (124) | 2,823 | 1,023 | 3,846 | 3,722 | (2,375) | 1,347 | 111 |
| Compensated absences | (2) | - | - | - | (2) | - | (2) | 16 |
| Funds held in trust | 2,653 | - | - | - | 2,653 | - | 2,653 | (3,256) |
| Net pension liability | 5,205 | - | - | - | 5,205 | - | 5,205 | (4,405) |
| Net cash provided by (used for) operating activities | \$ 2,305 | \$ (211,413) | \$ 10,764 | \$ (200,649) | \$ (198,344) | \$ - | \$ (198,344) | \$ (82,731) |
| Non-cash disclosures: | | | | | | | | |
| Increase (decrease) in fair value of investments | \$ (304) | \$ (2,291) | \$ (130) | \$ (2,421) | \$ (2,725) | \$ - | \$ (2,725) | \$ (5,278) |
| Fair value transfers | \$ (304) | \$ 304 | \$ - | \$ 304 | \$ - | \$ - | \$ - | \$ - |
| Investment transfers | \$ (917) | \$ 917 | \$ - | \$ 917 | \$ - | \$ - | \$ - | \$ - |
| Administration and service fees adjustment | \$ 2,677 | \$ (2,554) | \$ (123) | \$ (2,677) | \$ - | \$ - | \$ - | \$ - |

NORTH DAKOTA HOUSING FINANCE AGENCY
HOUSING AND URBAN DEVELOPMENT -
SECTION 8 FINANCIAL DATA SCHEDULE
FOR THE YEAR ENDED JUNE 30, 2023

| Line Item # | Description | Rent | Lower Income | Lower Income | Lower Income | Lower Income | Lower Income | Lower Income |
|-------------------------------|--|---|--|---|---|---|---|---|
| | | Supplements - Rental Housing for Lower Income Families | Housing Assistance Program_Section 8 Moderate Rehabilitate ND901MR0001 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0003 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0004 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0005 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0006 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0008 |
| Assets | | | | | | | | |
| 111 | Cash - Unrestricted | 901,853 | 96,102 | 41,441 | 30,939 | 32,660 | 137,827 | 24,113 |
| 113 | Cash - Other Restricted | 16 | - | - | - | - | - | - |
| 115 | Cash - Restricted for payment of current liability | - | 12,552 | 2,659 | 1,524 | - | 13,168 | - |
| 100 | Total Cash | 901,869 | 108,654 | 44,100 | 32,463 | 32,660 | 150,995 | 24,113 |
| 122 | Accounts Receivable - HUD Other Projects | 154,448 | - | 1,679 | - | 9,078 | - | 5,396 |
| 125 | Accounts Receivable - Miscellaneous | - | - | - | - | - | - | - |
| 126.1 | Allowance for Doubtful Accounts - Dwelling Rents | - | - | - | - | - | - | - |
| 126.2 | Allowance for Doubtful Accounts - Other | - | - | - | - | - | - | - |
| 120 | Total Receivables, net of allowances for | 154,448 | - | 1,679 | - | 9,078 | - | 5,396 |
| 142 | Prepaid Expenses and Other Assets | 12,224 | - | - | - | - | - | - |
| 150 | Total Current Assets | 1,068,541 | 108,654 | 45,779 | 32,463 | 41,738 | 150,995 | 29,509 |
| 160 | Total Fixed Assets, Net of Accumulated Depreciation | - | - | - | - | - | - | - |
| 180 | Total Non-Current Assets | - | - | - | - | - | - | - |
| 190/290 | Total Assets | 1,068,541 | 108,654 | 45,779 | 32,463 | 41,738 | 150,995 | 29,509 |
| Liabilities and Equity | | | | | | | | |
| 311 | Bank Overdraft | - | - | - | - | - | - | - |
| 312 | Accounts Payable <= 90 Days | 48,826 | 1,449 | 375 | 650 | 850 | 1,250 | 599 |
| 331 | Accounts Payable - HUD PHA Programs | 16 | 12,552 | 2,659 | 1,524 | - | 13,168 | - |
| 310 | Total Current Liabilities | 48,842 | 14,001 | 3,034 | 2,174 | 850 | 14,418 | 599 |
| 350 | Total Noncurrent Liabilities | - | - | - | - | - | - | - |
| 300 | Total Liabilities | 48,842 | 14,001 | 3,034 | 2,174 | 850 | 14,418 | 599 |
| 508 | Total Contributed Capital | - | - | - | - | - | - | - |
| 508.4 | Net Investment in Capital Assets | - | - | - | - | - | - | - |
| 509.2 | Fund Balance Reserved | - | - | - | - | - | - | - |
| 511.4 | Restricted Net Position | 16 | 12,552 | 2,659 | 1,524 | - | 13,168 | - |
| 512.4 | Unrestricted Net Position | 1,019,683 | 82,101 | 40,086 | 28,765 | 40,888 | 123,409 | 28,910 |
| 513 | Total Equity/Net Assets | 1,019,699 | 94,653 | 42,745 | 30,289 | 40,888 | 136,577 | 28,910 |
| 600 | Total Liabilities and Equity/Net Assets | 1,068,541 | 108,654 | 45,779 | 32,463 | 41,738 | 150,995 | 29,509 |

NORTH DAKOTA HOUSING FINANCE AGENCY
HOUSING AND URBAN DEVELOPMENT -
SECTION 8 FINANCIAL DATA SCHEDULE - CONTINUED
FOR THE YEAR ENDED JUNE 30, 2023

| Line Item # | Description | Lower Income | Lower Income | Lower Income | Lower Income | Lower Income | Lower Income |
|---------------------------------|--|--|--|---|---|---|---|
| | | Rent Supplements - Rental Housing for Lower Income Families | Housing Assistance Program_Section 8 Moderate Rehabilitate ND901MR0001 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0003 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0004 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0005 | Housing Assistance Program_Section 8 Moderate Rehabilitat ND901MR0006 |
| Revenue | | | | | | | |
| 70500 | Total Tenant Revenue | - | - | - | - | - | - |
| 70600 | HUD PHA Operating Grants | 13,544,750 | 126,257 | 15,420 | 61,536 | 110,686 | 66,493 |
| 71100 | Investment Income - Unrestricted | - | - | - | - | - | - |
| 72000 | Investment Income - Restricted | 1,536 | 26 | 7 | 12 | 15 | 11 |
| 700 | Total Revenue | 13,546,286 | 126,283 | 15,427 | 61,548 | 110,701 | 66,504 |
| Expenses | | | | | | | |
| 91100 | Administrative Salaries | 364,183 | 9,769 | 2,527 | 4,379 | 5,726 | 4,042 |
| 91200 | Auditing Fees | 7,395 | 146 | 38 | 65 | 85 | 60 |
| 91500 | Employee Benefit Contribution - Administrative | 171,016 | 4,726 | 1,222 | 2,119 | 2,770 | 1,956 |
| 91600 | Office Expense | 51,279 | 1,124 | 292 | 505 | 660 | 466 |
| 91800 | Travel | 12,377 | 32 | 8 | 14 | 19 | 13 |
| 91900 | Other | 108,112 | 2,850 | 736 | 1,278 | 1,671 | 1,179 |
| 96900/91000 | Total Operating Expenses | 714,362 | 18,647 | 4,823 | 8,360 | 10,931 | 7,716 |
| 97000 | Excess Operating Revenue over Operating Expenses | 12,831,924 | 107,636 | 10,604 | 53,188 | 99,770 | 58,788 |
| 97300 | Housing Assistance Payments | 12,802,485 | 96,247 | 7,680 | 48,084 | 93,095 | 54,076 |
| 90000 | Total Expenses | 13,516,847 | 114,894 | 12,503 | 56,444 | 104,026 | 61,792 |
| 10100 | Total Other Financing Sources (Uses) | - | - | - | - | - | - |
| 10000 | Excess (Deficiency) of Operating Revenue Over (Under) Expenses | 29,439 | 11,389 | 2,924 | 5,104 | 6,675 | 4,712 |
| Memo Account Information | | | | | | | |
| 11020 | Debt Principal Payments - Enterprise Funds | - | - | - | - | - | - |
| 11030 | Beginning Equity | 990,260 | 83,264 | 39,821 | 25,185 | 34,213 | 24,198 |
| 11040 | Prior Period Adjustments, Equity Transfers and Correction of Errors | - | - | - | - | - | - |
| 11130 | Maximum Annual Contributions Commitment (per ACC) | 18,333,803 | 134,999 | - | 67,631 | 107,399 | 64,800 |
| 11140 | Prorate Maximum Annual Contributions Applicable to a Period of less than Twelve Months | - | - | - | - | - | - |
| 11150 | Contingency Reserve, ACC Program Reserve | 1,943,171 | 106,162 | 50,109 | 33,469 | 41,605 | 23,665 |
| 11160 | Total Annual Contributions Available | 20,276,974 | 241,161 | 50,109 | 101,100 | 149,004 | 88,465 |
| 11190/11200 | Unit Months Available | 30,392 | 348 | 90 | 156 | 204 | 144 |
| 11210 | Number of Unit Months Leased | 30,392 | 239 | 31 | 110 | 191 | 138 |

NORTH DAKOTA HOUSING FINANCE AGENCY
ADJUSTED NET WORTH CALCULATION
FOR THE YEAR ENDED JUNE 30, 2023
(In Thousands)

A. Adjusted net worth calculation

| | |
|--|-------------------|
| Stockholder's equity per statement of financial condition at end of reporting period | <u>\$ 232,204</u> |
|--|-------------------|

Less:

Itemized unacceptable assets

| | | |
|----------------------------|-------------|--|
| 1. Due from state agencies | <u>\$ -</u> | |
|----------------------------|-------------|--|

| | | |
|----|-------------|--|
| 2. | <u>\$ -</u> | |
|----|-------------|--|

| | | |
|----|-------------|--|
| 3. | <u>\$ -</u> | |
|----|-------------|--|

| | | |
|---------------------------|-------------|--|
| Total unacceptable assets | <u>\$ -</u> | |
|---------------------------|-------------|--|

| | |
|--------------------|--------------------------|
| Adjusted net worth | <u><u>\$ 232,204</u></u> |
|--------------------|--------------------------|

B. Required net worth calculation

| | |
|--|-------------------|
| Unpaid principal balance of securities outstanding (Note: number of pools = 40) | <u>\$ 162,259</u> |
|--|-------------------|

Plus:

| | |
|--|------------------|
| Outstanding balance of commitment authority issued and requested | <u>\$ 10,000</u> |
|--|------------------|

| | |
|---|-------------------|
| Total outstanding portfolio and authority | <u>\$ 172,259</u> |
|---|-------------------|

| | |
|--------------------|------------------------|
| Required net worth | <u><u>\$ 3,068</u></u> |
|--------------------|------------------------|

C. Excess (deficit) net worth

| | |
|---|--------------------------|
| (Adjusted net worth - required net worth) | <u><u>\$ 229,136</u></u> |
|---|--------------------------|

NORTH DAKOTA HOUSING FINANCE AGENCY
INSURANCE COVERAGE SCHEDULE
FOR THE YEAR ENDED JUNE 30, 2023
(In Thousands)

| | |
|--|--------------------|
| A. <u>Identification of affiliated Ginnie Mae issuers</u> | |
| Affiliated Ginnie Mae issuers (Issuer name and Ginnie Mae issuer identification code) | <u>None</u> |
| Affiliated issuers on same insurance policies (Issuer name and Ginnie Mae issuer identification number) | <u>None</u> |
| B. <u>Required insurance calculation</u> | |
| Servicing portfolio | |
| Ginnie Mae | \$ 162,259 |
| Conventional (other) | <u>1,552,530</u> |
| Total servicing portfolio | <u>\$1,714,789</u> |
| Required fidelity bond coverage | <u>2,240</u> |
| Required mortgage servicing errors and omissions coverage | <u>2,240</u> |
| C. <u>Verification of insurance coverage</u> | |
| Fidelity bond coverage at end of reporting period | <u>2,500</u> |
| Mortgage servicing errors and omissions coverage at end of reporting period | <u>3,000</u> |
| D. <u>Excess (deficit) insurance coverage</u> | |
| Fidelity bond coverage | <u>260</u> |
| Required servicing errors and omissions coverage | <u>760</u> |
| E. <u>Ginnie Mae loss payable endorsement</u> | |
| Fidelity bond coverage | <u>Yes</u> |
| Mortgage servicing errors and omissions coverage | <u>Yes</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
CAPITAL REQUIREMENT CALCULATION
FOR THE YEAR ENDED JUNE 30, 2023
(In Thousands)

A. Capital requirement for depository institutions

| | | |
|--|-------------|------------------|
| Tier 1 capital | \$ - | |
| Total capital | <u>\$ -</u> | |
| | | |
| Risk-based assets | \$ - | |
| Total assets | <u>\$ -</u> | |
| | | |
| Tier 1 capital / total assets | | <u>- %</u> |
| Tier 1 capital / risk-based assets | | <u>- %</u> |
| Total capital / risk-based assets | | <u>- %</u> |
| | | <u>Meets</u> |
| | | |
| 5% of tier 1 capital / total assets | \$ - | <u>N/A</u> |
| 6% of tier 1 capital / risk-based assets | \$ - | <u>N/A</u> |
| 10% of total capital / risk-based assets | <u>\$ -</u> | <u>N/A</u> |

B. Capital requirement for nondepository institutions

| | | |
|---|---------------------|------------------|
| Total adjusted net worth | \$ 232,204 | |
| Total assets | <u>\$ 1,884,179</u> | |
| | | <u>Meets</u> |
| | | |
| Total adjusted net worth / total assets | <u>12.32%</u> | <u>Yes</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
LIQUID ASSET REQUIREMENT CALCULATION
FOR THE YEAR ENDED JUNE 30, 2023
(In Thousands)

A. Liquid asset calculation

| | | |
|---|------------------|------------------|
| Required net worth (from adjusted net worth calculation, page 70) | | <u>\$ 3,068</u> |
| Acceptable liquid assets | | |
| 1. Cash and cash equivalents | <u>\$ 12,089</u> | |
| Total liquid assets | | <u>\$ 12,089</u> |

B. Required liquid asset

| | | |
|--|-------------|---------------------------|
| | | <u>Meets Requirement?</u> |
| Excess (deficit) liquid (Total liquid assets / required net worth) | <u>394%</u> | <u>Yes</u> |

NORTH DAKOTA HOUSING FINANCE AGENCY
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
FOR THE YEAR ENDED JUNE 30, 2023

| <u>Federal Grantor/Federal Agency /Pass through Agency/Program</u> | <u>Federal AL Number</u> | <u>Passed Through to Subrecipients</u> | <u>Expenditures</u> |
|---|----------------------------------|--|------------------------|
| <u>Department of Housing and Urban Development</u> | | | |
| Federal Housing Commission Division | | | |
| Direct programs | | | |
| Mortgage Insurance - Homes | | | |
| Previous year balance of loans on which there are continuing compliance requirements | 14.117 | | \$ 697,608,858 |
| FHA loan principal disbursed during the fiscal year | 14.117 | | 130,951,015 |
| Total | | | <u>828,559,873</u> |
| Ginnie Mae - Mortgage Insurance - Homes | | | |
| Previous year balance of loans on which there are continuing compliance requirements | 14.UNK | | 154,813,442 |
| Rent Supplements - Rental Housing for Lower Income Families | 14.149 | | 13,516,848 |
| Housing Counseling Assistance Program | 14.169 | \$ 55,267 | 55,267 |
| Housing Trust Fund | 14.275 | | 4,821,112 |
| Community Planning and Development Division | | | |
| Lower Income Housing Assistance Program - | | | |
| Section 8 Moderate Rehabilitation / Section 8 Project Based | 14.856 | | 416,672 |
| Continuum of Care - Planning | 14.267 | | 77,419 |
| Homeless Management Information System Capacity Building Project | 14.261 | | 26,712 |
| Youth Homelessness Demonstration Grant | 14.276 | | 22,777 |
| HOME Investment Partnership Program * | 14.239 | 138,799 | 3,394,132 |
| HOME ARP* | 14.239 | | 29,213 |
| Pass through from the City of Minot: | | | |
| Community Development Block Grant - National Disaster Resilience Competition / CDBG Disaster Cluster | 14.269 | | 452 |
| Total Department of Housing and Urban Development | | <u>194,066</u> | <u>1,005,733,919</u> |
| <u>Department of Veterans Affairs</u> | | | |
| Veterans Benefits Administration Division | | | |
| Veterans Housing - Guaranteed and Insured Loans | | | |
| Previous year balance of loans on which there are continuing compliance requirements | 64.114 | | 78,842,146 |
| VA loan principal disbursed during the fiscal year | 64.114 | | 15,926,228 |
| Total | | | <u>94,768,374</u> |
| Ginnie Mae - Veterans Housing Guaranteed and Insured Loans | | | |
| Previous year balance of loans on which there are continuing compliance requirements | 64.UNK | | 12,048,186 |
| Total Department of Veteran Affairs | | | <u>106,816,560</u> |
| TOTAL | | <u>\$ 194,066</u> | <u>\$1,112,550,479</u> |

Total AL #14.239 = \$3,423,345

NORTH DAKOTA HOUSING FINANCE AGENCY
NOTES TO THE SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
JUNE 30, 2023

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Expenditures reported on the schedule of expenditures of federal awards (the "Schedule") are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, wherein certain types of expenditures are not allowable or limited as to reimbursement.

NOTE 2 INDIRECT COST RATE

North Dakota Housing Finance Agency has not elected to use the 10-percent de minimis cost rate as allowed under the Uniform Guidance.

NOTE 3 BASIS OF PRESENTATION

The accompanying Schedule includes the federal award activity of North Dakota Housing Finance Agency under programs of the federal government for the year ended June 30, 2023. The information in this schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements of Federal Awards* (Uniform Guidance). Because the schedule presents only a selected portion of the operations of North Dakota Housing Finance Agency, it is not intended to and does not present the financial position, change in net position, or cash flows of North Dakota Housing Finance Agency.

NOTE 4 LOAN GUARANTEES AND INSURANCE

The following is the balance of federal loan guarantees and insurance outstanding for the loan programs which appear on the schedule of expenditures of federal awards as of June 30, 2023.

| | | 2023 |
|--|--------|-----------------------|
| Mortgage Insurance - Homes | 14.117 | \$ 757,701,751 |
| Ginnie Mae -Mortgage Insurance - Homes | 14.UNK | 134,388,644 |
| Veterans Housing - Guaranteed and Insured Loans | 64.114 | 85,743,410 |
| Ginnie Mae - Veterans Housing Guaranteed and Insured Loans | 64.UNK | 10,921,461 |
| | | <u>\$ 988,755,266</u> |

INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the business-type activities of the North Dakota Housing Finance Agency, a department of the State of North Dakota, as of and for the year ended June 30, 2023, and the related notes to the financial statements, which collectively comprise the North Dakota Housing Finance Agency's basic financial statements, and have issued our report thereon dated October 13, 2023.

Report on Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered North Dakota Housing Finance Agency's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of North Dakota Housing Finance Agency's internal control. Accordingly, we do not express an opinion on the effectiveness of North Dakota Housing Finance Agency's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that have not been identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether North Dakota Housing Finance Agency's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the North Dakota Housing Finance Agency's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA

October 13, 2023

INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE FOR EACH MAJOR PROGRAM AND ON INTERNAL CONTROL OVER COMPLIANCE REQUIRED BY THE UNIFORM GUIDANCE

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited North Dakota Housing Finance Agency's compliance with the types of compliance requirements identified as subject to audit in the OMB *Compliance Supplement* that could have a direct and material effect on each of North Dakota Housing Finance Agency's major federal programs for the year ended June 30, 2023. North Dakota Housing Finance Agency's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

The Agency's major programs and the related direct and material compliance requirements are as follows:

| <u>Name of Major Program</u> | <u>Direct and Material Compliance Requirements</u> |
|---|---|
| Federal Housing Commission Division Mortgage Insurance – Homes: AL 14.117 & AL 64.114 | Special Tests and Provisions: Quality Control Plan, Delinquent Loans, Insurance Claims and Escrow Accounts |
| Ginnie Mae Issuers of Mortgage – Backed Securities: AL 14.UNK and & 64.UNK | Special Tests: Federal Financial Reports, Eligibility to Issue Mortgage-Backed Securities, Review of Custodial Documents, Issuer's Administration of Pooled Mortgage, Review of Monthly Accounting Reports and Quarterly Submissions, Securities and Trading Practices. |
| Rent Supplements – Rental Housing for Lower Income Families: AL 14.149 | Cash Management, Reporting |

In our opinion, North Dakota Housing Finance Agency complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2023.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditor's Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of North Dakota Housing Finance Agency and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of North Dakota Housing Finance Agency's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules, and provisions of contracts or grant agreements applicable to North Dakota Housing Finance Agency's federal programs.

Auditor's Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on North Dakota Housing Finance Agency's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about North Dakota Housing Finance Agency's compliance with the requirements of each major federal program as a whole. In performing an audit in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures

include examining, on a test basis, evidence regarding North Dakota Housing Finance Agency's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.

- Obtain an understanding of North Dakota Housing Finance Agency's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of North Dakota Housing Finance Agency's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on Internal Control over Compliance

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditor's Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.



BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA

October 13, 2023

NORTH DAKOTA HOUSING FINANCE AGENCY
SCHEDULE OF FINDINGS AND QUESTIONED COSTS
FOR THE YEAR ENDED JUNE 30, 2023

Section I - Summary of Auditor's Results

Financial Statements

| | | | |
|---|-------------------|------------------------------|--|
| Type of auditor's report issued: | <u>Unmodified</u> | | |
| Internal control over financial reporting: | | | |
| Material weakness(es) identified? | _____ yes | _____ <u>x</u> no | |
| Significant deficiency(ies) identified? | _____ yes | _____ <u>x</u> none reported | |
| Noncompliance material to financial statements noted? | _____ yes | _____ <u>x</u> no | |

Federal Awards

| | | | |
|--|-----------------------|------------------------------|--|
| Internal control over major programs: | | | |
| Material weakness(es) identified? | _____ yes | _____ <u>x</u> no | |
| Significant deficiency(ies) identified? | _____ yes | _____ <u>x</u> none reported | |
| Type of auditor's report issued on compliance for major programs: | <u>Unmodified</u> | | |
| Any audit findings disclosed that are Required to be reported in accordance with 2 CFR 200.516(a)? | _____ yes | _____ <u>x</u> no | |

| <u>AL Number(s)</u> | <u>Name of Federal Program or Cluster</u> |
|---------------------|---|
| 14.117 | Mortgage Insurance – Homes |
| 64.114 | Veteran's Housing – Guaranteed and Insured Loans |
| 14.UNK / 64.UNK | Ginnie Mae – Mortgage Insurance – Homes |
| | Ginnie Mae - Veterans Housing Guaranteed and Insured Loans |
| 14.149 | Rent Supplements – Rental Housing for Lower Income Families |

| | |
|--|---------------------------------|
| Dollar threshold used to distinguish between Type A and Type B programs: | <u>\$1,032,264</u> |
| Auditee qualified as a low-risk auditee? | _____ <u>x</u> yes _____ no |

Section II - Financial Statement Findings

There are no findings which are required to be reported under this section.

Section III - Federal Award Findings and Questioned Costs

There are no findings which are required to be reported under this section.

INDEPENDENT AUDITOR'S COMMENTS REQUESTED BY THE LEGISLATIVE AUDIT AND FISCAL REVIEW COMMITTEE

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

The Legislative Audit and Fiscal Review Committee require that certain items be addressed by independent certified public accountants performing audits of state agencies. These items and our responses are as follows:

Audit Report Communications:

1. What type of opinion was issued on the financial statements?

Unmodified opinion.

2. Was there compliance with statutes, laws, rules, regulations under which the agency was created and is functioning?

Yes - A review was made of Chapter 54-17 and other pertinent chapters of the North Dakota Century Code and we felt the Agency operated within the statutes, laws, rules and regulations under which it was created.

3. Was internal control adequate and functioning effectively?

Yes.

4. Were there any indications of lack of efficiency in financial operations and management of the Agency?

No.

5. Was action taken on prior audit findings and recommendations?

There were no prior year findings.

6. Was a management letter issued? If so, provide a summary below, including any recommendations and the management responses.

No.

Audit Committee Communications:

7. Identify any significant changes in accounting policies, any management conflicts of interest, any contingent liabilities, or any significant unusual transactions.

None.

8. Identify any significant accounting estimates, the process used by management to formulate the accounting estimates, and the basis for the auditor's conclusions regarding the reasonableness of these estimates.

The most sensitive estimates affecting the financial statements were:

Fair value of investments – Management's estimate of investments is based on the exchange value of investments between two willing parties. We evaluated the key factors and assumptions used to develop the fair value of investments in determining that it is reasonable in relation to the financial statements taken as a whole.

Fair value of financial derivative instruments – Management's estimate of the fair value of financial derivative instruments is based on the zero-coupon method and the discounted cash flow method. We evaluated the key factors and assumptions used to develop the fair value of the instruments in determining that they are reasonable in relation to the financial statements taken as a whole.

Net pension liability – Management's estimate of its actuarially calculated pension liability is based on several factors including but not limited to, anticipated investment return rate, retirement age for active employees, life expectancy, salary increase, and form of annuity payment upon retirement. We evaluated the key factors and assumptions used to determine future liabilities in determining that they are reasonable in relation to the financial statements taken as a whole.

Net OPEB liability – Management's estimate of its actuarially calculated OPEB liability is based on several factors including but not limited to, anticipated investment return rate, retirement age for active employees, and life expectancy. We evaluated the key factors and assumptions used to determine future liabilities in determining that they are reasonable in relation to the financial statements taken as a whole.

9. Identify any significant audit adjustments.

None.

10. Identify any disagreements with management, whether or not resolved to the auditor's satisfaction, relating to financial accounting, reporting, or auditing matter that could be significant to the financial statements.

None.

11. Identify any significant difficulties encountered in performing the audit.

None.

12. Identify any major issues discussed with management prior to retention.

None.

13. Identify any management consultations with other accountants about auditing and accounting matters.

None.

14. Identify any high-risk information technology systems critical to the operations based on the auditor's overall assessment of the importance of the system to the Agency and its mission or whether any exceptions identified in the six audit report questions addressed above are directly related to the operations of an information technology system.

Housing and Development Software, Dynamic Loan System, Loan Tracking and the general ledger and accounting system developed by the Agency are considered to be significant information technology systems critical to operation of the Agency. We would not consider these to be high risk based upon our inspection and understanding of the Agency's system of internal control over these significant information technology systems.

This report is intended solely for the information and use of the North Dakota Industrial Commission, Legislative Assembly, Advisory Board, management, others within the entity, and the federal awarding and pass-through agencies and is not intended to be and should not be used by anyone other than these specified parties.



**BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA**

October 13, 2023

October 13, 2023

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

We have audited the financial statements of the business-type activities of North Dakota Housing Finance Agency, a department of the State of North Dakota, for the year ended June 30, 2023. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards and *Government Auditing Standards* and the Uniform Guidance, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated June 29, 2023. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Matters

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by North Dakota Housing Finance Agency are described in Note 1 to the financial statements. No new accounting policies were adopted and the application of existing policies were not changed during 2023. We noted no transactions entered into by the governmental unit during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were:

Fair value of investments – Management's estimate of investments is based on the exchange value of investments between two willing parties. We evaluated the key factors and assumptions used to develop the fair value of investments in determining that it is reasonable in relation to the financial statements taken as a whole.

Fair value of financial derivative instruments – Management’s estimate of the fair value of financial derivative instruments is based on the zero-coupon method and the discounted cash flow method. We evaluated the key factors and assumptions used to develop the fair value of the instruments in determining that they are reasonable in relation to the financial statements taken as a whole.

Net pension liability – Management’s estimate of its actuarially calculated pension liability is based on several factors including but not limited to, anticipated investment return rate, retirement age for active employees, life expectancy, salary increase, and form of annuity payment upon retirement. We evaluated the key factors and assumptions used to determine future liabilities in determining that they are reasonable in relation to the financial statements taken as a whole.

Net OPEB liability – Management’s estimate of its actuarially calculated OPEB liability is based on several factors including but not limited to, anticipated investment return rate, retirement age for active employees, and life expectancy. We evaluated the key factors and assumptions used to determine future liabilities in determining that they are reasonable in relation to the financial statements taken as a whole.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. There were no such misstatements noted.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor’s report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated October 13, 2023.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a “second opinion” on certain situations. If a consultation involves application of an accounting principle to the governmental unit’s financial statements or a determination of the type of auditor’s opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to

determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the governmental unit's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

We applied certain limited procedures to the management's discussion and analysis, schedule of employer's share of net pension liability, schedule of employer contributions – pension, employer's share of net OPEB liability, schedule of employer contributions – OPEB and notes to the required supplementary information, which are required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

We were engaged to report on the combining statement of net position, combining statement of revenues, expenses and changes in fund net position, combining statement of cash flows, Housing and Urban Development – Section 8 Financial Data Schedule, adjusted net worth calculation, insurance coverage schedule, capital requirement calculation, liquid asset requirement calculation, schedule of expenditures of federal awards and notes to the schedule of expenditures of federal awards, which accompany the financial statements but are not RSI. With respect to the supplementary information accompanying the financial statements, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

Restriction on Use

This information is intended solely for the use of the North Dakota Industrial Commission, Legislative Audit and Fiscal Review Committee, Advisory Board and management of the North Dakota Housing Finance Agency and is not intended to be and should not be used by anyone other than these specified parties.

Very truly yours,



BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA

**NORTH DAKOTA HOUSING INCENTIVE FUND
BISMARCK, NORTH DAKOTA**

AUDITED FINANCIAL STATEMENTS

FOR THE YEARS ENDED JUNE 30, 2023 AND 2022

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INDEPENDENT AUDITOR'S REPORT

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

Report on Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the North Dakota Housing Incentive Fund, a special revenue fund of the State of North Dakota, as of and for the years ended June 30, 2023 and 2022, and the related notes to the financial statements, as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the North Dakota Housing Incentive Fund, a special revenue fund of the State of North Dakota, as of June 30, 2023 and 2022, and the changes in its financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the North Dakota Housing Incentive Fund, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the North Dakota Housing Incentive Fund and do not purport to, and do not, present fairly the financial position of the State of North Dakota, as of June 30, 2023 and 2022 and the changes in its financial position, for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the North Dakota Housing Incentive Fund's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the North Dakota Housing Incentive Fund's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the North Dakota Housing Incentive Fund's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4-6 be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 13, 2023, on our consideration of the North Dakota Housing Incentive Fund's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the North Dakota Housing Incentive Fund's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering North Dakota Housing Incentive Fund's internal control over financial reporting and compliance.



**BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA**

October 13, 2023

**NORTH DAKOTA HOUSING INCENTIVE FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2023 AND 2022**

The discussion and analysis of the financial performance of the Housing Incentive Fund (Fund) that follows is meant to provide additional insight into the Fund's activities for the years ended June 30, 2023 and 2022. Please read it in conjunction with the Fund's financial statements and footnotes, which are presented within this report.

Financial Highlights

The Fund's current assets consist only of cash deposited at the Bank of North Dakota. The cash balance at the end of FY2023 was \$7,262,585. This is a decrease of \$7,863,372 from the FY2022 balance of \$15,125,957, which was an increase of \$8,182,971, from the FY2021 balance of \$6,942,986. The fluctuations are a result of the Fund's operational activity.

Current liabilities were \$0 in FY2023 and FY2022. In FY2021 current liabilities were \$2,184. The entire FY2021 payable was to North Dakota Housing Finance Agency for administrative costs, no amounts were payable to other entities.

No contribution revenue was received in FY2023, FY2022, or FY2021.

In FY2023, the Fund received project payments of \$57,475. Project payments of \$79,689 were received in FY2022, and the Fund received project payments of \$1,007,280 in FY2021. Funds were remitted in accordance with the HIF loan agreement.

No fee income was received in FY2023, FY2022, or FY2021.

Administrative and operating expenses paid to North Dakota Housing Finance Agency were \$0 in FY2023. This is a decrease of \$361,898 from the FY2022 expense of \$361,898, which was an increase of \$352,459, from the FY2021 expense of \$9,439. The changes are a result of general operating, administrative, and salary expenses.

The Fund's grant expense increased by \$5,917,098 from \$1,032,636 in FY2022 to \$6,949,734 in FY2023. Grant expense decreased by \$2,263,168 from \$3,295,804 in FY2021 to \$1,032,636 in FY2022. All grant expenses can be attributed to the first, second, third, and fourth initiated measure of the Fund. Additionally, the Fund's grant expense related to recaptured funds was \$971,113 in FY2023.

The Fund's FY2023 ending balance of \$7,262,585 is a result of beginning balance of \$15,125,957 less grant expense recaptured funds of \$971,113 and grant expense of \$6,949,734, plus project payments of \$57,475. The Fund's FY2022 ending balance of \$15,125,957 is a result of a beginning balance of \$6,940,802 less administrative expenses of \$361,898 and grant expense of \$1,032,636, plus project payments of \$79,689 and the fifth initiated measure of \$9,500,000. The Fund's FY2021 ending balance of \$6,940,802 is a result of beginning balance of \$9,238,765 less administrative expenses of \$9,439 and grant expense of \$3,295,804, plus project payments of \$1,007,280. The fund balance is considered restricted.

NORTH DAKOTA HOUSING INCENTIVE FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS – CONTINUED
JUNE 30, 2023 AND 2022

Overview of the Financial Statements

Condensed Balance Sheets
June 30, 2023, 2022 and 2021

| | 2023 | 2022 | 2021 | \$ Change | Percentage |
|---|---------------------|----------------------|---------------------|-----------------------|-------------|
| ASSETS | | | | | |
| Restricted current assets | \$ 7,262,585 | \$ 15,125,957 | \$ 6,942,986 | \$ (7,863,372) | -52% |
| Total assets | <u>\$ 7,262,585</u> | <u>\$ 15,125,957</u> | <u>\$ 6,942,986</u> | <u>\$ (7,863,372)</u> | <u>-52%</u> |
| LIABILITIES | | | | | |
| Current liabilities | \$ - | \$ - | \$ 2,184 | \$ - | 0% |
| Total liabilities | <u>-</u> | <u>-</u> | <u>2,184</u> | <u>-</u> | <u>0%</u> |
| FUND BALANCE | | | | | |
| Restricted for affordable multifamily housing | <u>7,262,585</u> | <u>15,125,957</u> | <u>6,940,802</u> | <u>(7,863,372)</u> | <u>-52%</u> |
| Total liabilities and fund balance | <u>\$ 7,262,585</u> | <u>\$ 15,125,957</u> | <u>\$ 6,942,986</u> | <u>\$ (7,863,372)</u> | <u>-52%</u> |

Condensed Statements of Revenues, Expenses, and Changes in Fund Net Assets
Years Ended June 30, 2023, 2022 and 2021

| | 2023 | 2022 | 2021 | \$ Change | Percentage |
|---------------------------------------|---------------------|----------------------|---------------------|-----------------------|-------------|
| REVENUES | | | | | |
| Project payment | \$ 57,475 | \$ 79,689 | \$ 1,007,280 | \$ (22,214) | -28% |
| Total revenues | <u>57,475</u> | <u>79,689</u> | <u>1,007,280</u> | <u>(22,214)</u> | <u>-28%</u> |
| EXPENDITURES | | | | | |
| OPERATING EXPENSES | | | | | |
| Administrative and operating expenses | - | 361,898 | 9,439 | (361,898) | -100% |
| Grant expenses (recaptured funds) | 971,113 | - | - | 971,113 | 0% |
| Grant expenses | 6,949,734 | 1,032,636 | 3,295,804 | 5,917,098 | 573% |
| Total expenditures | <u>7,920,847</u> | <u>1,394,534</u> | <u>3,305,243</u> | <u>6,526,313</u> | <u>468%</u> |
| Revenue over expenditures | <u>(7,863,372)</u> | <u>(1,314,845)</u> | <u>(2,297,963)</u> | <u>(6,548,527)</u> | <u>498%</u> |
| TRANSFERS | | | | | |
| Transfers from General Fund | <u>-</u> | <u>9,500,000</u> | <u>-</u> | <u>(9,500,000)</u> | <u>100%</u> |
| CHANGE IN FUND BALANCE | (7,863,372) | 8,185,155 | (2,297,963) | (16,048,527) | -196% |
| TOTAL FUND BALANCE, BEGINNING OF YEAR | <u>15,125,957</u> | <u>6,940,802</u> | <u>9,238,765</u> | <u>8,185,155</u> | <u>118%</u> |
| TOTAL FUND BALANCE, END OF YEAR | <u>\$ 7,262,585</u> | <u>\$ 15,125,957</u> | <u>\$ 6,940,802</u> | <u>\$ (7,863,372)</u> | <u>-52%</u> |

NORTH DAKOTA HOUSING INCENTIVE FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS – CONTINUED
JUNE 30, 2023 AND 2022

Budgetary Information

As discussed in Note 1 to the financial statements, the Housing Incentive Fund (HIF) was first authorized by the Sixty-second Legislative Assembly under chapter 54-17 of the North Dakota Century Code (NDCC) and was reauthorized by the Sixty-third and Sixty-fourth Legislative Assemblies. The aggregate amount of tax credits allowed to all eligible contributors in the first initiated measure was \$15,000,000; \$20,000,000 in the second initiated measure; and \$30,000,000 in the third initiated measure. A transfer from the General Fund of \$15,400,000 was authorized in the second initiated measure. In the third initiated measure a transfer from the Bank of North Dakota earnings of \$5,000,000 was authorized along with an additional transfer for \$5,000,000 contingent on the Bank of North Dakota's calendar year 2015 net income. The Sixty-fifth Legislative Assembly reauthorized HIF with no additional funding. The Sixty-sixth Legislative Assembly reauthorized the Fund with a transfer of \$7,500,000 from the General Fund. The Sixty-seventh Legislative Assembly reauthorized the Fund with a transfer of \$9,500,000 from the General Fund. The Sixty-eighth Legislative Assembly reauthorized the Fund with a transfer of \$13,750,000 from the General Fund.

Outlook

North Dakota Housing Incentive Fund was established by the North Dakota Sixty-second Legislative Assembly under chapter 54-17 of the North Dakota Century Code. The Fund was created to receive contributions for the tax years of 2011 and 2012 up to \$15,000,000. The Fund was fully funded by the December 31, 2012 deadline. The Fund was reauthorized and expanded by the Sixty-third Legislative Assembly. The Fund was able to receive up to \$20,000,000 of tax credits for tax years 2013 and 2014. In addition to the tax credits, the Fund received an additional \$15,400,000 general fund appropriation, for a total of \$35,400,000. The legislation for the Funds authorization included an emergency clause, which allowed the Fund to begin receiving contributions in FY2013. The Fund was fully funded by December 31, 2013.

The North Dakota Sixty-fourth Legislative Assembly reauthorized the Fund to receive up to \$30,000,000 of tax credits for tax years 2015 and 2016. In addition, the Fund received a \$5,000,000 transfer from the Bank of North Dakota. Another contingent transfer from the Bank of North Dakota in the amount of \$5,000,000 occurred in FY2016, as the Bank of North Dakota met the net income contingency in the third initiated measure. All transfers from the Bank of North Dakota were completed in FY2017. The Fund was fully funded by December 31, 2016.

The Sixty-fifth Legislative Assembly reauthorized HIF with no additional funding.

The Sixty-sixth Legislative Assembly reauthorized the Fund with a transfer of \$7,500,000 from the General Fund.

The Sixty-seventh Legislative Assembly reauthorized the Fund with a transfer of \$9,500,000 from the General Fund.

The Sixty-eighth Legislative Assembly reauthorized the Fund with a transfer of \$13,750,000 from the General Fund.

NORTH DAKOTA HOUSING INCENTIVE FUND
MANAGEMENT'S DISCUSSION AND ANALYSIS – CONTINUED
JUNE 30, 2023 AND 2022

Contacting the Housing Incentive Fund's Financial Management

The information in this report is intended to provide the reader with an overview of the Fund's operations along with the Fund's accountability for those operations. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Housing Incentive Fund, PO Box 1535, Bismarck, ND 58502-1535.

NORTH DAKOTA HOUSING INCENTIVE FUND
BALANCE SHEETS
JUNE 30, 2023 AND 2022

| | 2023 | 2022 |
|---|--------------|---------------|
| ASSETS | | |
| Cash and cash equivalents | \$ 7,262,585 | \$ 15,125,957 |
| Total assets | \$ 7,262,585 | \$ 15,125,957 |
| FUND BALANCE | | |
| Restricted for affordable multifamily housing | \$ 7,262,585 | \$ 15,125,957 |
| Total fund balance | 7,262,585 | 15,125,957 |
| Total liabilities and fund balance | \$ 7,262,585 | \$ 15,125,957 |

See Notes to Financial Statements

NORTH DAKOTA HOUSING INCENTIVE FUND
STATEMENTS OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE
FOR THE YEARS ENDED JUNE 30, 2023 AND 2022

| | 2023 | 2022 |
|---------------------------------------|--------------|---------------|
| REVENUES | | |
| Project payments | \$ 57,475 | \$ 79,689 |
| Total revenues | 57,475 | 79,689 |
| EXPENDITURES | | |
| Current: | | |
| Administrative and operating expenses | - | 361,898 |
| Grant expenses (recaptured funds) | 971,113 | - |
| Grant expenses | 6,949,734 | 1,032,636 |
| Total expenditures | 7,920,847 | 1,394,534 |
| Revenue over (under) expenditures | (7,863,372) | (1,314,845) |
| INCOME (LOSS) BEFORE TRANSFERS | (7,863,372) | (1,314,845) |
| TRANSFERS | | |
| Transfers from Bank of North Dakota | - | 9,500,000 |
| CHANGE IN FUND BALANCE | (7,863,372) | 8,185,155 |
| TOTAL FUND BALANCE, BEGINNING OF YEAR | 15,125,957 | 6,940,802 |
| TOTAL FUND BALANCE, END OF YEAR | \$ 7,262,585 | \$ 15,125,957 |

See Notes to Financial Statements

NORTH DAKOTA HOUSING INCENTIVE FUND
NOTES TO THE FINANCIAL STATEMENTS
JUNE 30, 2023 AND 2022

NOTE 1 PRINCIPAL BUSINESS ACTIVITY AND SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations

The North Dakota Housing Incentive Fund (Fund) was created in 2011 by an initiated measure. The Fund was created as a special revolving fund at the Bank of North Dakota. The Fund is to be used to address unmet housing needs in North Dakota which includes new construction, rehabilitation, or acquisition of multifamily housing projects; gap assistance, matching funds, and accessibility improvements; assistance that does not exceed the amount necessary to qualify for a loan using underwriting standards acceptable for secondary market financing or to make the project feasible; and rental assistance, emergency assistance, or targeted supportive services designated to prevent homelessness. The Fund was reenacted in 2013 by an initiated measure. Under the new allocation plan, in addition to the types of uses described above, the Fund must give first priority through its scoring and ranking process to housing for essential services. The second priority is to provide housing for individuals and families of low and moderate income. The fund was reenacted in 2015 by an initiated measure. Under this allocation plan, all terms are the same as the 2013 measure. The 2021 legislative session appropriated a transfer from the State's General Fund in the amount of \$9.5 million to the Fund.

Reporting Entity

In accordance with criteria set forth by the Governmental Accounting Standards Board, the Fund should include all component units over which the Fund exercises such aspects as (1) appointing a voting majority of an organization's governing body and (2) has the ability to impose its will on that organization or (3) the potential for the organization to provide specific financial benefits to, or impose specific burdens on the Fund.

Based on the criteria above, no organizations were determined to be part of the reporting entity. The Fund is included as part of the primary government of the State of North Dakota's reporting entity.

Budgetary Process

The Fund is considered a continuing appropriation and only prepares a budget detailing the expected expenditures of the Fund. Those expenditures encompass the funds already appropriated to the Fund.

The State's budgeting system does not include revenues and thus, a Statement of Revenues and Expenses - Budget and Actual cannot be prepared as required by generally accepted accounting principles. A statement of appropriations cannot be presented because the Fund is a continuing appropriation and therefore no specific appropriation has been made to compare to.

NORTH DAKOTA HOUSING INCENTIVE FUND
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022

Accounting Standards

The Fund follows the pronouncements of the Governmental Accounting Standards Board, which is the nationally accepted standard-setting body for establishing generally accepted accounting principles for governmental entities. Funding is derived from individual, business, and financial institution tax payers who receive a dollar-for-dollar tax credit in exchange for their contributions to the Fund.

Fund Accounting

The Fund is accounted for by a set of self-balancing accounts that comprise its assets, liabilities, fund balance, revenues, and expenditures. The Fund accounts for the flow of resources of carrying on specific activities in accordance with laws, regulations, or debt restrictions. The Fund is operated as a special revenue fund. Special revenue funds are used to account for the proceeds of specific revenue sources that are restricted by law or administrative action to expenditure for specific purposes other than debt service or capital projects. The Fund is used to account for contributions from state income and financial institution taxpayers.

Basis of Accounting

The Fund is reported using the current financial resources measurement focus and the modified accrual basis of accounting. Under this method, revenues are recognized when measurable and available. Accordingly, revenues are recorded when received in cash, except that revenues subject to accrual (generally 60 days after year-end) are recognized when due. Expenditures are recorded when the related fund liability is incurred.

Fund Balance Classification Policies and Procedures

In accordance with Government Accounting Standards Board (GASB) No. 54, *Fund Balance Reporting and Governmental Fund Type Definitions*, the Fund classifies governmental fund balances as follows:

- Nonspendable – includes fund balance amounts that cannot be spent either because it is not in spendable form or because of legal or contractual constraints.
- Restricted – includes fund balance amounts that are constrained for specific purposes which are externally imposed by providers, such as creditors or amounts constrained due to constitutional provisions or enabling legislation.
- Committed – includes fund balance amounts that are constrained for specific purposes that are internally imposed by the government through formal action of the highest level of decision-making authority and does not lapse at year-end.
- Assigned – includes fund balance amounts that are intended to be used for specific purposes that are neither considered restricted or committed. Fund Balance may be assigned by upper management.
- Unassigned – includes fund balance which has not been classified within the above-mentioned categories.

NORTH DAKOTA HOUSING INCENTIVE FUND
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022

The Fund uses restricted / committed amounts first when both restricted and unrestricted fund balance is available unless there are legal documents/contracts that prohibit doing this, such as a grant agreement requiring dollar for dollar spending. Additionally, the Fund would first use committed, then assigned, and lastly unassigned amounts of unrestricted fund balance when expenditures are made.

Use of Estimates

In preparing financial statements in conformity with accounting principles generally accepted in the United States of America, management is required to make estimates and assumptions that affect reported amounts of assets and liabilities at the date of the balance sheet and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Contributions

The Fund recognizes contribution revenue when taxpayer donations are received.

Project Payments

Project payments are recognized when earned and are amounts required to be paid back to the Fund when projects meet certain cash flow requirements.

NOTE 2 DEPOSITS

Custodial Credit Risk

State law generally requires that all state funds be deposited in the Bank of North Dakota. NDCC 21-04-01 provides that public funds belonging to or in the custody of the state shall be deposited in the Bank of North Dakota. Also, NDCC 6-09-07 states, "all state funds...must be deposited in the Bank of North Dakota" or must be deposited in accordance with constitutional and statutory provisions.

The bank balances of deposits of the Fund at June 30, 2023 and 2022 were \$7,226,839 and \$15,125,957 consisting of non-interest-bearing operating cash deposited at the Bank of North Dakota.

The deposits at the Bank of North Dakota are guaranteed by the State of North Dakota through NDCC Section 6-09-10. The carrying amounts of the deposits of the Fund at the Bank of North Dakota at June 30, 2023 and 2022 were \$7,262,585 and \$15,125,957.

NORTH DAKOTA HOUSING INCENTIVE FUND
NOTES TO THE FINANCIAL STATEMENTS - CONTINUED
JUNE 30, 2023 AND 2022

NOTE 3 RELATED PARTY TRANSACTIONS

The Fund had the following transactions with related parties as of June 30, 2023 and 2022:

| | 2023 | 2022 |
|-------------------------------------|------|--------------|
| Administrative expenditures: | | |
| North Dakota Housing Finance Agency | \$ - | \$ 361,898 |
| Transfers in: | | |
| Bank of North Dakota | \$ - | \$ 9,500,000 |

NOTE 4 COMMITMENTS

The Fund makes various commitments relating to construction projects to meet unmet housing needs across North Dakota. The Fund had \$4,678,081 of signed commitments for construction projects as of June 30, 2023. The Fund had \$16,522,031 of HIF funds awarded for construction projects as of June 30, 2023. The total paid on these commitments as of June 30, 2023 was \$11,843,951.

NOTE 5 SUBSEQUENT EVENTS

No significant events occurred subsequent to the Fund's year end. Subsequent events have been evaluated through October 13, 2023, which is the date these financial statements were available to be issued.

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the North Dakota Housing Incentive Fund, a special revenue fund of the State of North Dakota, as of and for the year ended June 30, 2023, and the related notes to the financial statements, which collectively comprise North Dakota Housing Incentive Fund's basic financial statements, and have issued our report thereon dated October 13, 2023.

Report on Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered North Dakota Housing Incentive Fund's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of North Dakota Housing Incentive Fund's internal control. Accordingly, we do not express an opinion on the effectiveness of North Dakota Housing Incentive Fund's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements, on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether North Dakota Housing Incentive Fund's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA

October 13, 2023

INDEPENDENT AUDITOR'S COMMENTS REQUESTED BY THE NORTH DAKOTA LEGISLATIVE AUDIT AND FISCAL REVIEW COMMITTEE

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

The Legislative Audit and Fiscal Review Committee require that certain items be addressed by independent certified public accountants performing audits of state agencies. These items and our responses are as follows:

Audit Report Communications:

1. What type of opinion was issued on the financial statements?

Unmodified opinion

2. Was there compliance with statutes, laws, rules, regulations under which the Fund was created and is functioning?

Yes

3. Was internal control adequate and functioning effectively?

Yes

4. Were there any indications of lack of efficiency in financial operations and management of the Fund?

No

5. Was action taken on prior audit findings and recommendations?

There were no prior year findings.

6. Was a management letter issued? If so, provide a summary below, including any recommendations and the management responses.

No

Audit Committee Communications:

1. Identify any significant changes in accounting policies, any management conflicts of interest, any contingent liabilities, or any significant unusual transactions.

None

2. Identify any significant accounting estimates, the process used by management to formulate the accounting estimates, and the basis for the auditor's conclusions regarding the reasonableness of these estimates.

None

3. Identify any significant audit adjustments.

None

4. Identify any disagreements with management, whether or not resolved to the auditor's satisfaction, relating to financial accounting, reporting, or auditing matter that could be significant to the financial statements.

None

5. Identify any significant difficulties encountered in performing the audit.

None

6. Identify any major issues discussed with management prior to retention.

None

7. Identify any management consultations with other accountants about auditing and accounting matters.

None

8. Identify any high-risk information technology systems critical to the operations based on the auditor's overall assessment of the importance of the system to the Fund and its mission or whether any exceptions identified in the six audit report questions addressed above are directly related to the operations of an information technology system.

None

This report is intended solely for the information and use of the North Dakota Industrial Commission, Legislative Audit and Fiscal Review Committee, Advisory Board, management, others within the entity, and the federal awarding and pass-through agencies and is not intended to be and should not be used by anyone other than these specified parties.



BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA

October 13, 2023

October 13, 2023

Governor Doug Burgum
The Legislative Assembly
State of North Dakota
Bismarck, North Dakota

We have audited the financial statements of the North Dakota Housing Incentive Fund, a special revenue fund of the State of North Dakota for the year ended June 30, 2023. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards and *Government Auditing Standards*, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated June 29, 2023. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Matters

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by North Dakota Housing Incentive Fund are described in Note 1 to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during 2023. We noted no transactions entered into North Dakota Housing Incentive Fund during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. There are no significant estimates affecting the financial statements.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. We did not identify any known or likely misstatements during the audit.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated October 13, 2023.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to North Dakota Housing Incentive Fund's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the governmental unit's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

We applied certain limited procedures to the management's discussion and analysis, which is required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

Restriction on Use

This information is intended solely for the use of the North Dakota Industrial Commission, Legislative Audit and Fiscal Review Committee, Advisory Board and management of the North Dakota Housing Incentive Fund and is not intended to be and should not be used by anyone other than these specified parties.

Very truly yours,

A handwritten signature in black ink that reads "Brady Martz". The signature is written in a cursive, flowing style.

**BRADY, MARTZ & ASSOCIATES, P.C.
BISMARCK, NORTH DAKOTA**

HOME MORTGAGE FINANCE PROGRAM BONDS

NDHFA Bond Sale 2023F

| | Priced November 14, 2023 | | Priced 7/11/2023 | Priced 1/10/2023 |
|---|--------------------------|--------------|-------------------|--------------------|
| | Tax Exempt | Taxable | Tax Exempt | Tax Exempt |
| | 2023F | N/A | 2023D | 2023A |
| Bonds Issued | 75,000,000 | 0 | 75,000,000 | 125,000,000 |
| Bond Premium | 1,384,106 | 0 | 0 | 3,916,418 |
| Debt Service Reserve | (2,250,000) | 0 | (3,750,000) | 0 |
| Total Proceeds | 74,134,106 | - | 71,250,000 | 128,916,418 |
| Bond Yield | 4.8083% | 0.00% | 4.260% | 4.224% |
| Cost of Issuance & Underwriters Discount (Agency) | 809,437 | - | 743,542 | 1,129,394 |
| Average Loan Amount | 202,501 | - | 204,184 | 194,230 |
| Estimated Number of Loans | 366 | #DIV/0! | 349 | 664 |

| Interest Rates Offered (30 Year Fixed rates adjusted daily): | | | | |
|---|--------|--------|--------|--------|
| Government (1.5 Points*) | 5.900% | 7.850% | 5.900% | 5.500% |
| Conventional (1.5 Points*) | 6.150% | 8.100% | 6.150% | 5.750% |
| (*1% Orig. Fee & 1/2 Point) | | | | |

Commentary: Since the beginning of 2023 the Federal Reserve has raised interest rates 4 times bringing the fed funds rate to 5.25% - 5.50%. During this same time the Agency has moved the tax exempt 30 year mortgage rate 10 times and still is well below the current market rate for a 30 year conventional loan. The average 30 year FHA mortgage rate is 6.51% and the average 30 year conventional mortgage rate right now is 7.11%. For the past two months the Agency is averaging just over \$6.5million a week in First Home (tax exempt) reservations. Currently, the average total payment (principal, interest, taxes and insurance) for a First Home borrower is \$1,191 and for a Roots borrower it is \$1,932.

Eligible Loans include: FHA Insured, Conventional Insured, USDA RD Guaranteed, VA Guaranteed, Uninsured

| | | |
|--|--------------|---------|
| Home Sales Price Limits: (One Unit) | All Counties | 481,176 |
| <i>Higher Limits applicable to 2 - 4 Unit Residences</i> | | |

| | |
|---|--------------------|
| Borrower Income Limits: | 100,400 to 126,040 |
| <i>Limits vary by county and household size</i> | |

| | |
|-----------------------------------|------------|
| Underwriters Discount Components: | \$/M Bonds |
| Management | 0.75 |
| Expense | 0.73 |
| Take-Down | 5.77 |
| TOTAL | 7.25 |

| | |
|--|----|
| Miscellaneous : | |
| Annual (Basis Points on Loans Outstanding) | 20 |

NORTH DAKOTA HOUSING FINANCE AGENCY
HOUSING FINANCE PROGRAM BONDS
HOME MORTGAGE FINANCE PROGRAM

2024 ANNUAL SERIES RESOLUTION

WHEREAS, the Industrial Commission of North Dakota (the “**Commission**”) acting in its capacity as a state housing finance agency, i.e., the North Dakota Housing Finance Agency (the “**Agency**”), is empowered by the provisions of the North Dakota Century Code Chapter 54-17 (the “**Act**”) to establish, and has established, a home mortgage finance program to contract to purchase from lenders mortgage loans made to persons or families of low or moderate income to finance the purchase or substantial rehabilitation of owner-occupied, single-family residential dwelling units; and

WHEREAS, the Commission adopted the Housing Finance Program General Bond Resolution of 1994, on July 21, 1994, as amended (the “**1994 General Resolution**”), and the General Bond Resolution of 2009, on November 25, 2009 (the “**2009 General Bond Resolution**,” and together with the 1994 General Resolution, the “**General Resolutions**”), wherein Wilmington Trust National Association, Minneapolis, Minnesota, was appointed successor trustee (the “**Trustee**”) under each of the General Resolutions, and which General Resolutions were each accepted by the Trustee, and which General Resolutions are hereby ratified and confirmed; and

WHEREAS, the Agency has previously issued certain bonds pursuant to each of the General Resolutions (collectively, the “**Home Mortgage Finance Program Bonds**”), both of which allow for the issuance of additional bonds thereunder and the refunding of certain bonds currently outstanding thereunder; and

WHEREAS, the General Resolutions authorize the issuance and sale of additional Home Mortgage Finance Program Bonds (the “**New Series Bonds**”), pursuant to the Act, the application of the proceeds of which will provide funding for the captioned Home Mortgage Finance Program, which may include the North Dakota Roots Program (the “**Program**”), contemplated by the Act in furtherance of the Program for the providing of decent, safe, and sanitary housing for persons and families of low or moderate income; and

WHEREAS, the Commission acting as the Agency has determined to appoint as its agents the Executive Director, the Director of Homeownership Programs, the Chief Financial Officer and the Assistant Chief Financial Officer of the Agency (the “**Authorized Officers**”) for the negotiation of the terms of sale of the New Series Bonds, in one or more series, with fixed or floating interest rates, and with or without bondholder tender rights, and to sign such agreements on behalf of the Commission after such terms of sale have been negotiated, and such certificates and other documents as are necessary and customary to complete the sale of the New Series Bonds, and to enter into agreements for their sale by the Agency and purchase by the Underwriters described below, private entities or the U.S. Treasury and/or instrumentalities thereof, subject to the limitations herein established with regard to the New Series Bonds:

- (a) a maximum principal amount of long-term bonds of \$450,000,000; provided that bonds may be issued pursuant hereto to refund any bond outstanding under

the 1994 General Resolution or the 2009 General Bond Resolution without regard to this maximum principal amount;

(b) a maximum principal amount of short-term bonds of \$100,000,000; provided that bonds may be issued pursuant hereto to refund any bond outstanding under the 1994 General Resolution or the 2009 General Bond Resolution without regard to this maximum principal amount;

(c) a final maturity of not later than fifty years from the applicable date of issuance;

(d) a maximum average annual interest rate, on a per issue basis, of 9.00% for fixed rate bonds, and for variable rate bonds an initial rate of 8.00% with a maximum rate of 15% per annum, determined at the time of pricing any New Series Bonds; and

WHEREAS, the following documents (collectively, the “**Closing Financing Documents**”) may be prepared in connection with each issuance of the New Series Bonds:

(a) One or more Bond Certificates, (the “**Bond Certificates**”);

(b) Fixed Rate Bond Purchase Contract (the “**Fixed Rate Bond Purchase Contract**”) with respect to any New Series Bonds issued with fixed interest rates (the “**Fixed Rate Bonds**”), by and between the Commission and RBC Capital Markets, LLC as representative of the underwriters selected by an Authorized Officer (collectively the “**Underwriters**”);

(c) Variable Rate Bond Purchase Contract (the “**Variable Rate Bond Purchase Contract**”) with respect to any New Series Bonds issued with variable interest rates (the “**Variable Rate Bonds**”), by and between the Commission and RBC Capital Markets, LLC (“**RBCCM**”) as sole underwriter of any Variable Rate Bonds;

(d) Preliminary Official Statement, with respect to the New Series Bonds (the “**Preliminary Official Statement**”);

(e) Continuing Disclosure Agreement (the “**Continuing Disclosure Agreement**”) by and between the Agency and the Trustee;

(f) Remarketing Agreement (the “**Remarketing Agreement**”) with respect to any Variable Rate Bonds by and among the Commission, a remarketing agent selected by an Authorized Officer and Wilmington Trust, National Association, as tender agent (the “**Tender Agent**”); and

(g) Standby Bond Purchase Agreement (the “**Standby Bond Purchase Agreement**”) with respect to any Variable Rate Bonds by and among the Agency, the Trustee, the Tender Agent and a counterparty selected by an Authorized Officer; and

WHEREAS, Section 1.150-2 of the Internal Revenue Code regulations (the “**Tax Regulations**”) provides, if the Agency intends to finance mortgage loans with its own funds or

warehouse funds, and then reimburse itself with New Series Bond proceeds, that the Agency declare its intention to do so prior to so financing such mortgage loans.

NOW BE IT HEREWITH RESOLVED:

1. The Authorized Officers are appointed as agents of the Commission acting as the Agency for the purposes set forth in the preambles to this Annual Series Resolution and the Agency is hereby authorized to issue, execute, sell and deliver the New Series Bonds, in substance as provided in the final forms of the Closing Financing Documents as approved by an Authorized Officer, provided that the New Series Bonds meet the following conditions:

A. The New Series Bonds: (i) shall be sold, issued, executed and delivered at such time as an Authorized Officer shall determine during the period that this Annual Series Resolution remains in full force and effect, in one or more series or sub-series, in an aggregate principal amount not to exceed the amounts set forth in the preambles to this Annual Series Resolution; (ii) shall be subject to redemption prior to maturity, at prices and otherwise as determined by an Authorized Officer to be in the best interests of the Agency; (iii) shall have long term ratings no lower than the long term rating on the bonds outstanding under the applicable General Resolution immediately prior to the issuance of the New Series Bonds; and (iv) shall be dated, mature in the years and in the principal amounts and be payable on the dates and at the respective rates of interest per annum determined by an Authorized Officer (subject in all cases to the limitations otherwise set forth in this Annual Series Resolution).

B. Any New Series Bonds issued as Fixed Rate Bonds shall bear interest at fixed rates determined by an Authorized Officer, provided, however that the weighted average of such rates, on a per issue basis, shall not exceed 9.0% per annum. Any New Series Bonds issued as Variable Rate Bonds shall bear interest at a variable rate that shall not initially exceed 8.0%.

C. An Authorized Officer shall determine whether the New Series Bonds shall be issued as bonds the interest on which is exempt from or subject to federal income taxation.

D. The New Series Bonds shall not constitute debt of the State or any political subdivision thereof. Neither the faith and credit nor the taxing powers of the State or any political subdivision thereof may be pledged to the payment of the principal of or interest on the New Series Bonds.

E. The New Series Bonds shall be special limited obligation revenue bonds of the State payable solely from the revenues and assets pledged therefore under the applicable General Resolution.

2. The form of one or more Bond Certificates, in substantially the forms of either the 2023 Series A/B Bond Certificate executed in connection with the issuance of the Agency's Home Mortgage Finance Program Bonds, Home Mortgage Finance Program, 2023 Series A and 2023 Series B (collectively, the "**2023 Series AB Bonds**") or the 2023 Series C Bond Certificate executed in connection with the issuance of the Agency's Home Mortgage Finance Program Bonds, Home Mortgage Finance Program, 2023 Series C (the "**2023 Series C Bonds**") and, together with the 2023 Series AB Bonds the "**2023 Series ABC Bonds**") are hereby approved with such changes, variations, omissions and insertions as an Authorized Officer shall approve. The

execution and delivery of such Bond Certificates by an Authorized Officer shall constitute conclusive evidence of such approval.

3. The form of the Fixed Rate Bond Purchase Contract, in substantially the form of the purchase contract prepared in connection with the issuance of the 2023 Series AB Bonds, and the form of the Variable Rate Bond Purchase Contract, in substantially the form of the purchase contract prepared in connection with the issuance of the 2023 Series C Bonds, are hereby approved with such changes, variations, omissions and insertions as an Authorized Officer shall approve. The execution and delivery of the respective Purchase Contracts by an Authorized Officer shall constitute conclusive evidence of such approvals.

4. The Preliminary Official Statement, in substantially the form of either the Official Statement prepared in connection with the issuance of the 2023 Series ABC Bonds, with such changes, omissions, insertions and revisions as an Authorized Officer shall deem advisable, is hereby authorized, and the furnishing of the information in the Preliminary Official Statement and in a final Official Statement for each issuance of New Series Bonds, and the use of such Preliminary Official Statement and final Official Statement by the Underwriters and RBCCM in connection with the offering of such New Series Bonds to the public, are hereby approved. Any Authorized Officer is hereby authorized to execute and deliver to the Underwriters the final Official Statement for the applicable New Series Bonds in substantially the form of the Preliminary Official Statement with such changes therein as are approved by such Authorized Officer. The execution and delivery of one or more copies of the final Official Statement by an Authorized Officer shall constitute conclusive evidence of such approval.

5. The form of the Continuing Disclosure Agreement, in substantially the form of the Continuing Disclosure Agreement prepared in connection with the issuance of the 2023 Series ABC Bonds is hereby approved with such changes, variations, omissions, and insertions as an Authorized Officer shall approve. The execution and delivery of the Continuing Disclosure Agreement by such Authorized Officer shall constitute conclusive evidence of such approval.

6. The form of the Remarketing Agreement, in substantially the form of such agreement prepared in connection with the issuance of the 2023 Series C Bonds is hereby approved with such changes, variations, omissions, and insertions as an Authorized Officer shall approve. The execution and delivery of the Remarketing Agreement by such Authorized Officer shall constitute conclusive evidence of such approval.

7. The form of the Standby Bond Purchase Agreement, in substantially the form of such agreement prepared in connection with the issuance of the Agency's Home Mortgage Finance Program Bonds, Home Mortgage Finance Program, 2019 Series E if the counterparty specified by an Authorized Officer of the Agency is the Federal Home Loan Bank of Des Moines or substantially in the form prepared in connection with the issuance of the 2023 Series C Bonds if any other counterparty is specified by an Authorized Officer of the Agency, is hereby approved with such changes, variations, omissions, and insertions as an Authorized Officer shall approve. The execution and delivery of the Standby Bond Purchase Agreement by such Authorized Officer shall constitute conclusive evidence of such approval.

8. The Authorized Officers are hereby authorized, empowered and directed to do all acts and things required or provided for by the Closing Financing Documents and to execute and deliver all such additional certificates, instruments, agreements and documents, (including any tax certificate or forms) pay all such fees, charges and expenses and to do all such further acts and things as may be necessary, or in the reasonable discretion of an Authorized Officer, desirable and proper to effect the purposes of this Annual Series Resolution and to cause compliance by the Agency with all the terms, covenants and provisions of such documents binding upon the Agency.

9. The use of interest rate hedging agreements with such financial organizations as an Authorized Officer of the Agency may specify (each, a “**Counterparty**”) is hereby approved (in particular financial organizations with whom the Agency already has such hedging agreements) and the form of the interest rate hedging agreements with such counterparties, consisting of an ISDA Master Agreement, including a Schedule and Credit Support Annex, and one or more Confirmations thereto, relating to the New Series Bonds (collectively, the “**Hedging Agreements**”) which Counterparties and form of agreements satisfy the provisions of the Commission’s Swap Management and Execution Policy (the “**Swap Policy**”) are hereby approved, and the Authorized Officers of the Agency are authorized to negotiate the final terms of, approve and execute any such Hedging Agreements; and such execution and delivery shall constitute conclusive evidence of their approval of all changes thereto.

10. The New Series Bonds shall be executed by the manual or facsimile signatures of the Governor, the Attorney General, the Agriculture Commissioner and an Authorized Officer, and with the manual or a facsimile of the Official Seal of the Commission impressed, imprinted or otherwise reproduced thereon.

11. The terms of any sale of New Series Bonds shall be reported to the Commission at its next succeeding meeting, and any acts of the officers, agents and employees of the Commission and the Agency which are in conformity with the purpose and intent of this Annual Series Resolution and in furtherance of the sale of the New Series Bonds need not be submitted for approval, ratification and confirmation.

12. In addition to the authority otherwise granted herein, the Authorized Officers are authorized and empowered to enter into, amend or terminate interest rate hedging agreements with respect to any Home Mortgage Finance Program Bonds with a variable interest rate, including replacement of expiring hedging agreements, but only for the purposes and in accordance with the Swap Policy as then in effect, and in no case may the notional amount of any such agreement exceed the principal amount of variable interest rate Home Mortgage Finance Program Bonds whose interest rate is being hedged.

13. In addition to the authority otherwise granted herein, the Authorized Officers are authorized and empowered to enter into liquidity agreements, such as standby bond purchase agreements, including extension or replacement of expiring liquidity agreements, with financial institutions whereby such institutions are primarily obligated to purchase any tendered Home Mortgage Finance Program Bonds that are not successfully remarketed.

14. In addition to the authority otherwise granted herein, the Authorized Officers are authorized and empowered to modify or replace existing liquidity agreements, such as standby

bond purchase agreements, and to modify any other agreement or obligation (including hedging agreements and notes or bonds of the Agency) to substitute a comparable interest rate index for the London Inter Bank Offered Rate.

15. To the extent required for New Series Bonds to be issued as tax-exempt bonds, each Authorized Officer is hereby appointed to represent the Agency at public hearings held pursuant to Section 147(f) of the Internal Revenue Code, to be held on the dates and at the times selected by such Authorized Officer regarding the proposed issuance of such New Series Bonds and will receive, on behalf of the Commission, public comments, oral or written, and advise the Chairman of the Commission of the substance of the testimony given at the public hearing prior to the date of issuance of such New Series Bonds.

16. Moneys held by the Trustee pursuant to the General Resolutions may be invested in any investments permitted by the respective General Resolution, and in accordance with North Dakota laws.

17. Program Directive No. 83, adopted by the Commission on June 23, 2004, authorizing the changing of Mortgage Loan purchase price, fees and points and interest rate is still in effect and is hereby ratified and confirmed.

18. This Annual Series Resolution is intended to qualify as a reimbursement resolution pursuant to the Tax Regulations and, therefore permit proceeds from the sale of the New Series Bonds to be used to reimburse the Agency for its purchase of any Mortgage Loans in anticipation of the availability of the proceeds from the sale of the New Series Bonds; in particular, the Agency hereby declares its intention, within the meaning of the Tax Regulations, to facilitate continuous funding of the Program by, from time to time, financing Mortgage Loans and then issuing New Series Bonds in one or more series within 18 months thereof to reimburse itself for such financing, all in an amount presently expected to not exceed the amount of long-term New Series Bonds authorized by Section 1 hereof, and hereby confirms that any Authorized Officer is authorized to also so declare the intention of the Agency within the meaning of said Tax Regulations, provided that any such declaration does not authorize or obligate the Agency to issue any such New Series Bonds.

IN WITNESS WHEREOF, this Annual Series Resolution has been adopted and signed on December 18, 2023 and shall remain in full force and effect through January 31, 2025.

INDUSTRIAL COMMISSION OF NORTH DAKOTA
ACTING AS THE NORTH DAKOTA HOUSING FINANCE AGENCY

Doug Burgum, Governor and Chairman

Drew H. Wrigley, Attorney General

Doug Goehring, Agriculture Commissioner

Attest:

Karen Tyler
Interim Executive Director and Secretary

[SEAL]

CERTIFICATION

I hereby certify that the Annual Series Resolution to which this Certification is affixed is a true copy of the original adopted by the Industrial Commission of North Dakota at a properly noticed meeting held in Bismarck, North Dakota, on December 18, 2023 with the motion for adoption of the foregoing made by _____ and seconded by _____, and the roll call vote on the motion was as follows:

| | | | | |
|-----------------|-------|-------|--------|-----------|
| Doug Burgum | “Aye” | “Nay” | Absent | Abstained |
| Drew H. Wrigley | “Aye” | “Nay” | Absent | Abstained |
| Doug Goehring | “Aye” | “Nay” | Absent | Abstained |

Karen Tyler
Interim Executive Director and Secretary

[SEAL]

Resolution of Board of Directors and Certificate of Authorized Signatures

U.S. Department of Housing and Urban Development
Government National Mortgage Association

OMB Approval No. 2503-0033 (Exp. 04/30/2026)

(Please type all entries)

Public reporting burden for this collection of information is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a current OMB control number.

Ginnie Mae is authorized to collect the information on this form as required by Section 306(g) of the National Housing Act and/or the Ginnie Mae Handbook, 5500.3, Rev. 1. Ginnie Mae maintains this information to ensure that the persons identified below perform in accordance with acceptable business standards. The information collected will not be disclosed outside the Department except as required by law.

| | | | |
|----------------|-------------------------------------|------------------|------|
| Name of Issuer | North Dakota Housing Finance Agency | Issuer ID Number | 4093 |
|----------------|-------------------------------------|------------------|------|

Resolved First, that

| | |
|--|-----------|
| Name and Title of Officer | Signature |
| David A. Flohr , Executive Director | |
| Name and Title of Officer | Signature |
| Patrick J. Nagel , Chief Financial Officer | |
| Name and Title of Officer | Signature |
| Kayla J. Axtman , Assistant Chief Financial Officer | |
| Name and Title of Officer | Signature |
| Franklin J. Kraft , System Admin | |
| Name and Title of Officer | Signature |
| Brandon J. Dettlaff , Director of Financial Programs | |
| Name and Title of Officer | Signature |
| Terri Mollman-Larson , Loan Servicing Coordinator | |
| Name and Title of Officer | Signature |
| Kristine Karre , Lead Bond Accountant | |
| Name and Title of Officer | Signature |

of this corporation, or any one or more of them, be and each of them is hereby authorized and empowered in the name of and on behalf of this corporation and under its corporate seal, from time to time while these resolutions are in effect, to execute and deliver to the Government National Mortgage Association, in the form prescribed by said Association, with respect to the issue(s) by this corporation, under Section 306(g) of the National Housing Act and the Regulations pertaining thereto, of mortgage-backed securities to be guaranteed by the Association, any documents required to: (a) make applications to Ginnie Mae in the name of and on behalf of this corporation for approval to become an issuer and for Ginnie Mae commitments to guarantee such mortgage-backed securities issued by this corporation; (b) enter into contracts with Ginnie Mae for the latter's guaranty of mortgage-backed securities issued in accordance with the terms and conditions of commitments to guarantee, issued by the Association to this corporation; (c) merge mortgage notes, deeds of trust and bonds now owned or hereafter acquired by this corporation into pools or loan packages, against which this corporation may issue mortgage-backed securities; (d) enter into any agreements, execute any documents or papers, and furnish any information required or deemed necessary or proper by the Association in connection with any of the foregoing; and (e) abide by all the terms and conditions set forth in the Ginnie Mae Mortgage-

Resolved Second, that the above named officers, be and they are hereby authorized and empowered in their discretion and as occasion may arise to receive and endorse the name of this corporation on any checks or drafts representing the proceeds from collections made by servicers of mortgages pertaining to pools or loan packages, and to issue and sign any checks or drafts issued to pay to the security holders their pro rata shares in these proceeds, and to do and perform any and all acts and to execute any and all additional instruments or agreements, from time to time, in the name of and on behalf of this corporation under its corporate seal or otherwise, deemed necessary or proper by the Association in connection with the formation of mortgage pools or loan packages, the issuance of mortgage-backed securities, the guaranty of mortgage-backed securities by the Association and the discharge of the duties and obligations of this corporation, as issuer, until the proceeds of the last maturing mortgage in any pool or loan package is remitted to registered security holders.

Resolved Third, that any contracts or agreements heretofore made said Association on behalf of this corporation, and all acts of officers or agents of this corporation in connection with any contracts to be entered into for the guaranty by the Association of mortgage-backed securities to be issued by this corporation are hereby ratified and confirmed.

Resolved Fourth, that Ginnie Mae is authorized to rely upon the aforesaid resolution until receipt by it of written notice thirty days in advance of any proposed change therein.

Certification.

I Hereby Certify that the foregoing is a true and correct copy of a resolution presented to and adopted by the Board of Directors of Industrial Commission acting as the North Dakota Housing Finance Agency (herein "corporation")

at a meeting duly called and held at the North Dakota State Capital, 600 East Boulevard, Bismarck, ND

on the 18 day of December, 2023, at which a quorum was present and voted, and that such resolution is duly recorded in the minute book of this corporation; that the officers named in said resolution have been duly elected or appointed to, and are the present incumbents of, the respective offices set after their respective names. I also certify that the signatures set opposite the officers' names are true and genuine specimens of the officers' respective signatures.

In Witness Whereof, I have hereunto signed my name and affixed the seal of this corporation.

(seal)

Karen Tyler
Secretary

I, David A. Flohr Executive Director
Name of Officer Title of Officer

of North Dakota Housing Finance Agency
Name of Institution

in 2624 Vermont Avenue, Bismarck, ND 58504 hereby certify
Location of Institution

Karen Tyler is duly qualified and acting
Name of Secretary

of Industrial Commission of North Dakota
Name of Institution

and that the signature appearing above is his/her genuine signature.

In Witness Whereof, I have hereunto signed my name

Date

Officer Signature



OIL AND GAS RESEARCH PROGRAM PROJECT MANAGEMENT REPORT

Reice Haase, Deputy Executive Director, NDIC

December 15, 2023

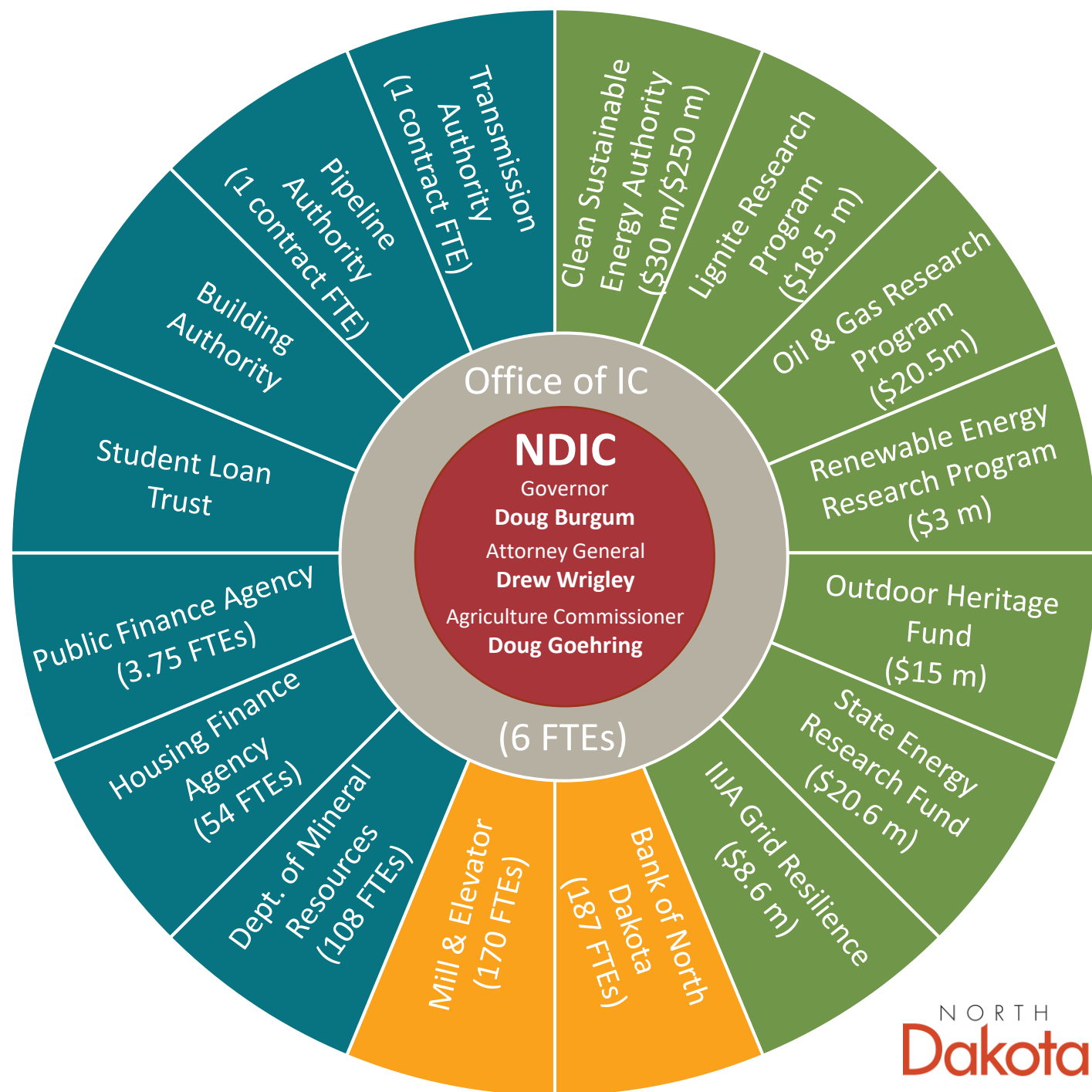
NORTH
Dakota

Be Legendary.™

Industries, Agencies, and Programs

Legend

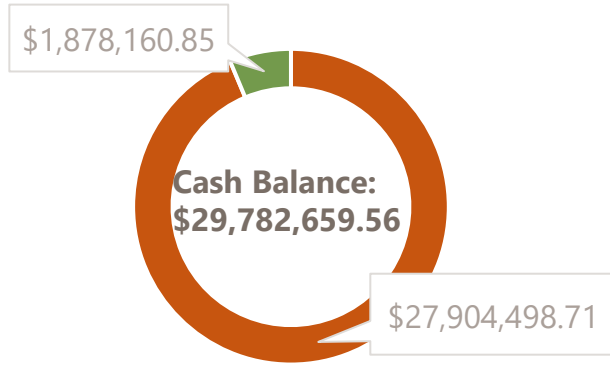
- Commission
- Office of IC
- Agency Role
- Grant Program
- State-Owned Enterprise



Updated to reflect 68th Legislative Assembly changes

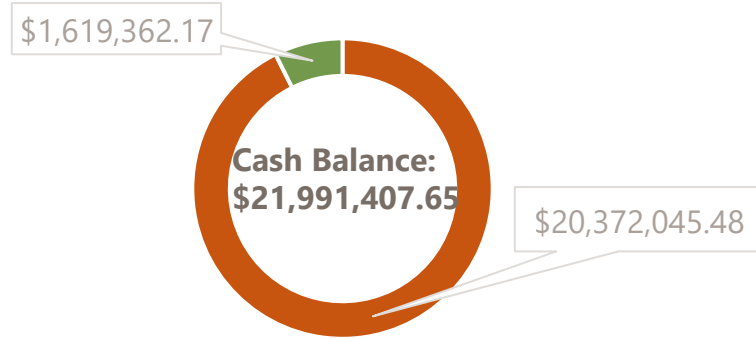
INDUSTRIAL COMMISSION-MANAGED FUNDS

Lignite Research Fund



■ Committed ■ Uncommitted

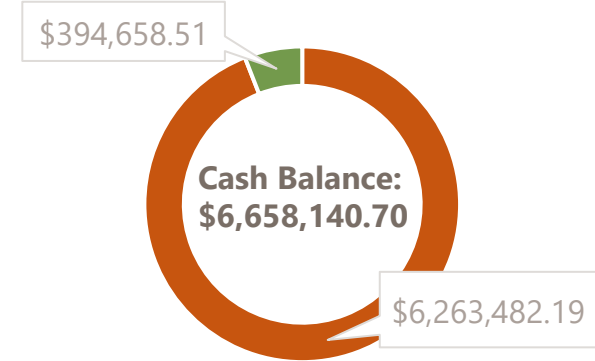
Oil and Gas Research Fund*



*Does not include SIIF or Gas Capture

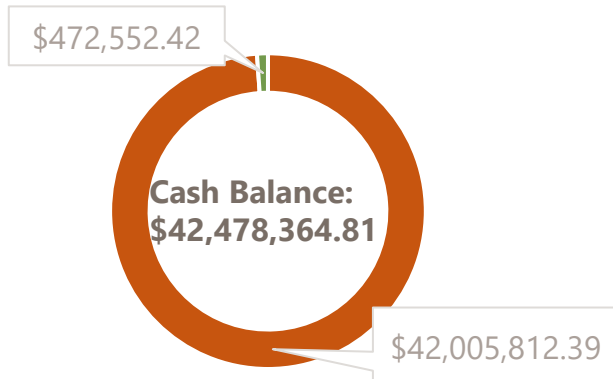
■ Committed ■ Uncommitted

Renewable Energy Fund



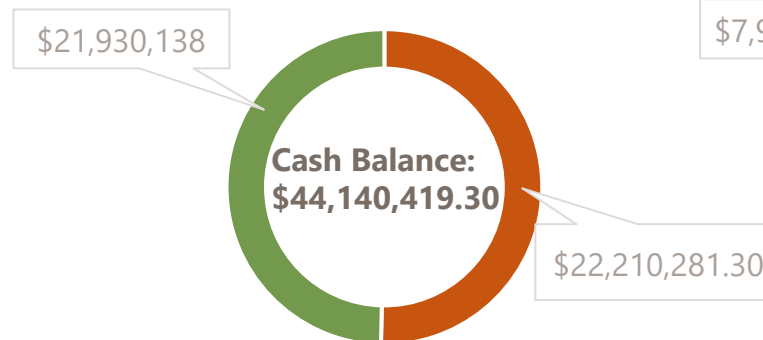
■ Committed ■ Uncommitted

Outdoor Heritage Fund



■ Committed ■ Uncommitted

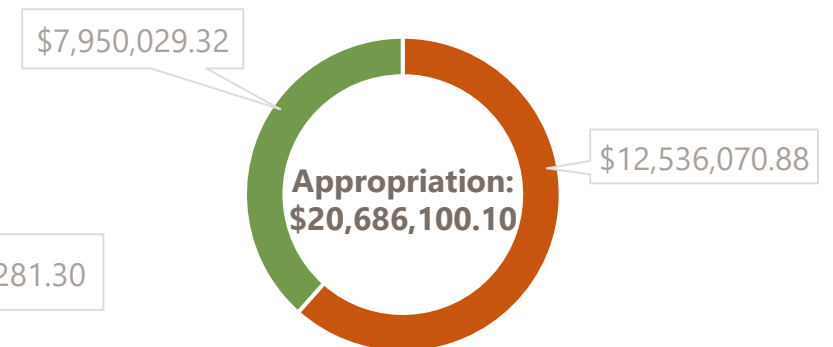
CSEA Fund*



*Does not include ARPA or Loans

■ Committed ■ Uncommitted

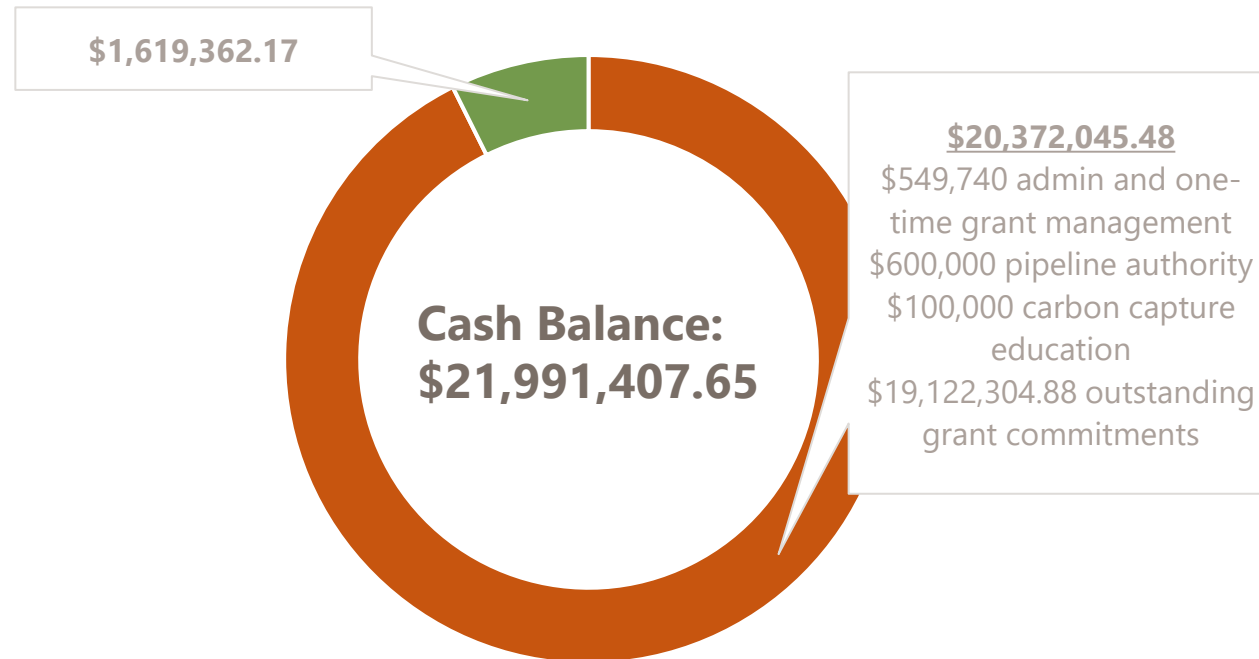
SERC Fund



■ Leg. Directed ■ Remaining ■ Spent

OIL AND GAS RESEARCH FUND BALANCE DECEMBER 15TH, 2023

Oil and Gas Research Fund*



*Does not include SIF or Gas Capture

■ Committed ■ Uncommitted



Funding Source:

- \$17.5 million oil production and extraction tax
- \$3 million SIF for iPipe



115 Cumulative Projects



25 Active Projects

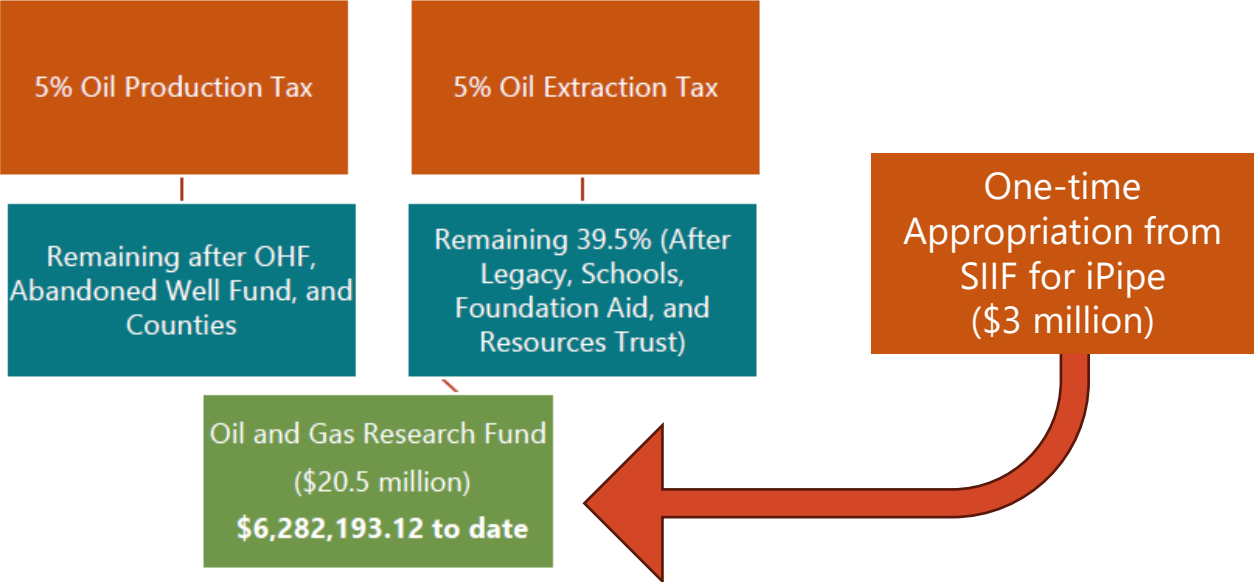
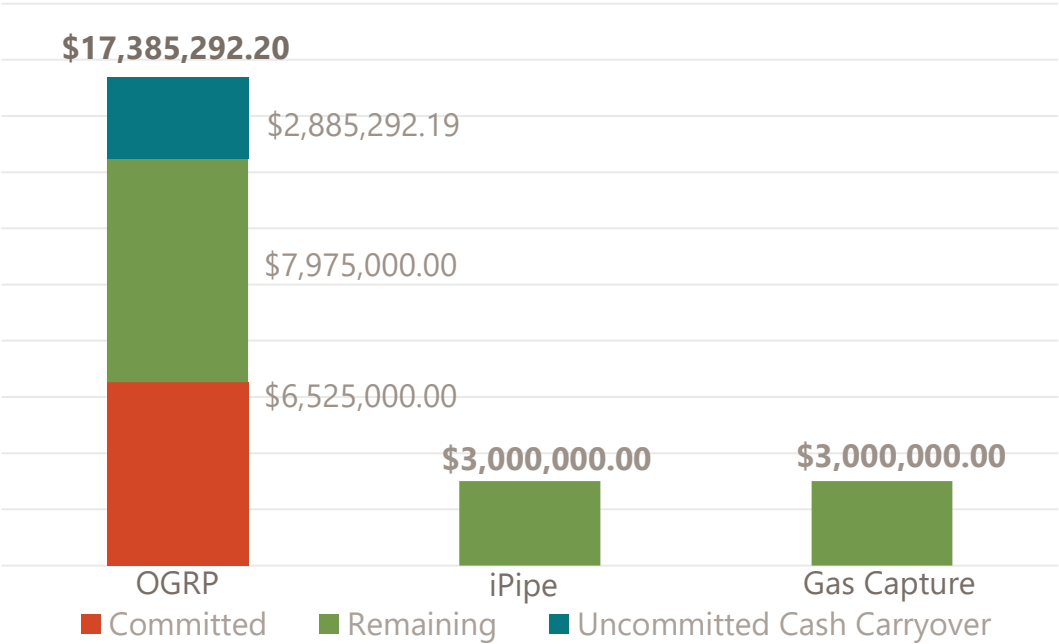


Cumulative Value:

- \$90 million granted
- \$524.5 million project value

2023-2025 BIENNIUM FUNDING:

2023-2025 Appropriation



Oil and Gas Research Program

Grant Round 59 Applications (December 2023)

| Grant # | Application Title | Applicant | Principal Investigator | Recommended Funding | Total Project Costs | Duration | OGRC Vote |
|-----------|--|--------------------------|------------------------|---------------------|---------------------|-----------|-----------|
| G-059-B | iPipe 3.0 | EERC | Darren Schmidt | \$3,000,000 | \$6,000,000 | 2 years | 6-0 |
| G-055-110 | Amendment Request: Well Site Thief Hatch Methane Detectors | Blue Rock Solutions, LLC | Troy Vareberg | \$170,000 | \$769,000 | 2.5 years | 6-0 |
| | Total being considered | | | \$3,170,000 | \$6,769,000 | | |



November 1, 2023

Mr. Reice Haase
Deputy Director
ATTN: Oil and Gas Research Program
North Dakota Industrial Commission
State Capitol – 14th Floor
600 East Boulevard Avenue, Department 405
Bismarck, ND 58505-0840

Dear Mr. Haase:

Subject: EERC Proposal No. 2024-0046 Entitled “iPIPE 3.0”

The Energy & Environmental Research Center (EERC) in coordination with members of the intelligent Pipeline Integrity Program (iPIPE) is requesting support for a 2-year program (January 2024 through December 2025) focused on innovation of leak detection and prevention technology. The funding, requested from the Oil and Gas Research Program (OGRP), is \$3,000,000 of which \$1,000,000 is contingent upon the outcome of in-kind match obtained from the project’s technology selection process. Matching funds will be provided to OGRP from an industry contribution of \$900,000 cash and in-kind cost share of \$2,100,000 resulting from the technology selection process commensurate with the contingency stated above.

Since inception in 2018, iPIPE has developed a core group of industry partners focused on the development of technology to reduce the frequency and duration of pipeline releases. iPIPE members operate upstream and midstream oil and gas assets including gathering systems and long-distance pipelines that process North Dakota’s products and move these commodities to the marketplace. iPIPE member assets cover a significant footprint in North Dakota and account for most of the gas, natural gas liquids, crude oil, and produced water transported within the state. iPIPE is an important industry collaboration that combines perspectives and conducts projects that are pertinent to the collective interest. The program has been successfully conducting projects that break new ground and provide important feedback on new techniques. The members would like to continue the innovation that iPIPE enables. We greatly appreciate the vision of OGRP in electing to recommend to the North Dakota Industrial Commission funding for iPIPE.

The EERC is a research organization within the University of North Dakota, an institution of higher education within the state of North Dakota, and is not a taxable entity; therefore, it has no tax liability. The \$100 application fee (Check 2743) was delivered by UPS October 30, 2023. If you have any questions, please feel free to contact me by phone at (701) 777-5201 or by email at dschmidt@undeerc.org.

Sincerely,

DocuSigned by:

DBBB99DF8C34D8
Darren D. Schmidt

Assistant Director for Subsurface R&D
iPIPE Program Manager

Approved by:

DocuSigned by:

Charles D. Gorcecki, CEO
Energy & Environmental Research Center

DDS/kal
Attachment

Oil and Gas Research Program

North Dakota

Industrial Commission

Application

Project Title: iPIPE 3.0

Applicant: Energy & Environmental Research
Center

Principal Investigator: Darren Schmidt, EERC

Date of Application: November 1, 2023

Amount of Request: \$3,000,000

Total Amount of Proposed Project: \$6,000,000

Duration of Project: 24 months

Point of Contact (POC): Darren Schmidt

POC Telephone: (701) 739-5680

POC E-Mail Address: dschmidt@undeerc.org

POC Address: 15 North 23rd Street, Stop 9018,
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ABSTRACT

Objective: The goal of the intelligent Pipeline Integrity Program (iPIPE) is to advance technologies that reduce the frequency and duration of pipeline releases.

Expected Results: iPIPE has accelerated the advancement of technology to improve pipeline integrity. Members gain hands-on experience through iPIPE projects and, as a result, realize early adoption of technology that benefits the asset. iPIPE 3.0 will continue to scout and conduct technology projects that advance leak detection and prevention. Projects are anticipated to include pipeline sensors, new techniques that can collect integrity data anywhere along the pipeline, and remote monitoring such as aerial and satellite surveillance. New to iPIPE 3.0 is a focus to scout technology that can assist with methane detection. iPIPE conducts an annual forum and monthly meetings that engage members in collaboration. Reports are delivered by the Energy & Environmental Research Center (EERC) to the Oil and Gas Research program (OGRP) and iPIPE members. iPIPE's results build confidence in early adoption of technology and impact pipeline assets in North Dakota.

Duration: The duration of the proposed program is January 2024 through December 2025.

Total Project Cost: The total project cost is \$6,000,000. The request to OGRP is for \$3,000,000, with \$1,000,000 to be contingent upon the outcome of the technology selection process. OGRP funding will be matched with \$900,000 cash from iPIPE members and in-kind support from technology suppliers totaling \$2,100,000 with the above-stated commensurate contingency.

Participants: Participants include the EERC, Oneok, Inc.; Hess Corporation; Energy Transfer; TC Energy Corporation; Marathon Petroleum Logistics (MPLx); and one additional industry partner.

PROJECT DESCRIPTION

The intelligent Pipeline Integrity Program (iPIPE) includes industry organizations that account for a majority of oil and gas in North Dakota gathered and transported to commodity markets. iPIPE is the industry's response to Governor Doug Burgum's challenge to eliminate pipeline leaks through innovation.¹ The program is a pinnacle in demonstrating the option for innovation over regulation. Since 2018, iPIPE has vetted over 145 technologies and conducted 12 technology projects that have ranged from technology on the pipe to technology orbiting the earth. Members of iPIPE collaborate on a monthly basis to discuss advancements in leak detection and conduct technology projects that explore applications within their assets. The Energy & Environmental Research Center (EERC) manages the activity of iPIPE, which includes technology scouting, technical evaluation, contract management, field activity, project performance, reporting, and coordination of member meetings.

iPIPE conducts technology projects selected by the membership. Projects provide for a hands-on experience designed to understand the effectiveness of new technology which can lead to early adoption and an accelerated impact for members and the state of North Dakota. As an example, early iPIPE projects explored the capability of remote monitoring of oil and gas assets from space. This technology is presently in use in North Dakota because of the iPIPE experience. Familiarity with satellites led to the selection of a second project including advanced sensor technology which was launched this past year aboard two Space-X missions. The project is the start of a larger constellation aimed at providing near-real-time monitoring. Satellite-based asset monitoring is a significant technological advancement for the industry in which iPIPE members are influencing development.

Presently, the membership is conducting iPIPE 2.0. The program is diversified with four projects: 1) a project to enhance manned aircraft right-of-way monitoring by utilization of in-flight sensing

¹ <https://www.ndoil.org/industry-responds-to-governors-initiative-to-improve-pipeline-technology-program-funding-approved-by-north-dakota-industrial-commission/>.

technology; 2) development of a new sensor for remote site applications where detection of hydrocarbons triggers capture of an optical and multispectral image, thus reducing false positives and providing immediate incident inspection; 3) acoustic sensing for more frequent and affordable pipeline inspections; and 4) advanced computational pipeline monitoring applied specifically to produced water systems. Past projects are highlighted in Appendix A.

iPIPE 3.0 is a continuation of the previous program and will be enhanced with increased funding from the North Dakota Industrial Commission (NDIC) Oil and Gas Research Program (OGRP) and in-kind support from technology suppliers. iPIPE members are eager to maintain momentum and continue the program (see corporate acknowledgments, Appendix B). New for iPIPE 3.0 is a focus on scouting for technologies targeted at methane detection and greenhouse gas emissions. The membership intends to keep continuity of operations with the present program structure. The members appreciate the technology scouting and collective selection of projects and are excited about achieving an even greater scope in iPIPE 3.0. Members have provided letters of support in Appendix C.

Objectives:

The goal of the program is to advance technologies that reduce the frequency and duration of pipeline releases.

Objectives to achieve the program goal are as follows:

- Select projects for demonstration from the technology-scouting efforts, which are approved by the membership.
- Grow industry membership.
- Foster industry collaboration through monthly member meetings and an annual member forum.
- Advance technology to commercial application, with at least one project achieving commercial deployment.

Methodology:

iPIPE achieves program objectives through collaboration with and coordination of industry members, technical contributions, and project management. The membership meets monthly at a minimum and hosts a technology selection event and an annual member forum. A significant scouting effort is conducted by the EERC to screen technology, invite organizations to propose projects, and select proposals for review by the iPIPE technology selection committee. Monthly meetings provide updates on projects and an opportunity to conduct member business. The EERC coordinates member business and conducts the technical work to prepare for the technology selection event, member forums, and completion of research projects. The EERC is the contracting authority with OGRP and manages agreements with member companies. Each industry member designates a representative with voting rights who provides guidance to the program. Members vote on technology selections and program recommendations. Industry members are expected to contribute experience and be hands-on, offering facilities in which to demonstrate technology. The EERC provides expertise, coordinates projects and contracts, and assists in technology advancement and documentation.

The EERC scouts for technology, providing a service to the iPIPE members to communicate and screen organizations that may qualify for iPIPE's technology selection event. The EERC maintains a database that continues to grow and includes more than 145 pipeline technology organizations. Qualifying organizations are invited to submit a proposal for the technology selection event. A technology selection event will be completed early in 2024. Technology providers become successful applicants if they are evaluated positively relative to the following:

- Likelihood the technology will improve leak prevention or leak detection.
- Likelihood the technology will be deployed on member assets.
- Ability for the proposed demonstration to be achieved within budget and schedule.
- Quality of the methodology to achieve the objectives and the scientific merit.

- Likelihood the demonstration will advance the technology toward commercialization.
- The technology provider will provide a high value to the program (in-kind support).

iPIPE members determine support for technology demonstrations based on the quantity and quality of proposals relative to program budget and objectives. EERC contracts and manages technology projects with the awarded providers. Progress is discussed at monthly meetings, and decisions relative to the program are determined. Upon completion of projects, the EERC issues a report to members and updates OGRP. Annual member forums are used to discuss technology and provide networking among organizations.

Organizations are eligible to join iPIPE if they are operators of wells or gathering, transmission, or distribution pipeline systems. Members individually contribute \$75,000 per year. Member obligations are designated in an invoice agreement between the EERC and the organization. Each industry organization selects a representative with one vote on any subject brought to the membership. The representative may vote by proxy. Quorum is achieved by majority. The order of business for iPIPE meetings includes an agenda provided 1 week in advance to notify the membership of upcoming decisions. The meeting is called to order, a quorum is determined, and previous meeting minutes are read and approved. The membership is provided with an update on projects, program finances, program development, and membership. Unfinished business, new business, and any other business for the good of the order is conducted, followed by adjournment.

Anticipated Results:

iPIPE 3.0 is expected to build on previous success. Technology selection rounds completed in the previous program are summarized in Table 1. Over 145 technologies were screened to ultimately produce 12 projects. iPIPE 3.0 will leverage the existing technology pool and conduct a technology selection event within the program. Because of increased funding, the technology selection process is anticipated to produce a greater number and scale of projects.

Table 1. Technology Screening and Selection

| | iPIPE 1.0 First Round | iPIPE 1.0 Second Round | iPIPE 1.0 Third Round | iPIPE 1.0 Fourth Round | iPIPE 2.0 | Total |
|------------|--------------------------|------------------------------|--------------------------|---------------------------|-----------|-------|
| Invited: | 7 | 21 | 62 | 58 | 47 | 145+ |
| Proposals: | 7 | 10 | 14 | 24 | 14 | 69 |
| Presented: | 7 | 9 | 8 | 10 | 9 | 43 |
| Selected: | 2 | 4* | 2 | 2 | 4 | 14 |

* Two selections were unable to agree upon terms, so contracting did not occur.

Proposals presented to iPIPE 3.0 are anticipated to achieve a step-change in leak detection and leak prevention technology. iPIPE 3.0 will continue to advance applications for in-line inspection, artificial intelligence monitoring, intelligent pipeline sensors, and remote inspection. At least one technology from the technology selection event is expected to achieve commercial deployment as a result of advancements achieved through iPIPE support. iPIPE 3.0 will also build on our satellite experience as we receive detection and alert data and evaluate accuracy and resolution of satellite-based detection capabilities.

Efforts will continue to market and grow the program to add members and revenue. Mergers and acquisitions that occurred during iPIPE 2.0 considerably expanded iPIPE's footprint in North Dakota including the acquisition of Crestwood which formally acquired Oasis Midstream. Members of iPIPE 3.0 cover significant portions of North Dakota pipeline infrastructure.

Facilities:

iPIPE members own and operate oil and gas pipelines and facilities, which are provided to demonstrate selected technologies. The EERC offers over 54,000 ft² of demonstration facilities that can accommodate a variety of technologies. The space allows for custom construction of new pilot-scale components to fit client needs.

Resources:

The EERC provides direct labor including a program director, a project director, a program manager, and project support for iPIPE activity. Additional support is provided through contract specialists, administrative support, and communications personnel. Personnel are dedicated throughout the program. Each industry organization provides a representative to iPIPE. The representative has direct input to the program and responsibility to manage additional specialized support for technology projects. iPIPE offers significant value to participants, in which technology providers are required to provide in-kind cost share. Support is subject to the technology provider's offering and capabilities.

Techniques to Be Used, Their Availability and Capability:

The EERC provides technical expertise and field sampling experience for off-site demonstrations. The EERC employs over 280 people available for technology projects.

Environmental and Economic Impacts While Project Is Underway:

No environmental releases occurred during the past years of the program, and future work is not expected to impact the environment. Project demonstrations utilize local services, resulting in some local economic stimulation.

Ultimate Technological and Economic Impacts:

The advancement of technology to safeguard pipeline infrastructure and continuously improve leak detection and leak prevention is vital to North Dakota's economy. The oil and natural gas industry accounted for more than \$42.6 billion to North Dakota's economy, supporting nearly 50,000 jobs and over \$3.4 billion in state and local tax revenues in 2021, according to the North Dakota Petroleum Foundation.² Pipeline infrastructure is critical to North Dakota's economy to competitively transport oil, produced water, gas, and natural gas liquids (NGLs). North Dakota is among the top three oil producers in the United States, producing over 1.1 million barrels of oil per day, 1.6 million barrels of produced

² <https://ndpetroleumfoundation.org/bakken-benefits/opportunity/>.

water per day, and 3 billion cubic feet of gas per day, which includes approximately 750,000 barrels per day of NGLs.³ The demand for pipeline infrastructure is projected to grow, and iPIPE has invested over \$5.4 million to accelerate leak prevention and leak detection technologies. Continuing with iPIPE 3.0 will bolster existing efforts, incubate new emerging technologies, and provide the innovation needed to remain competitive.

Why the Project Is Needed:

As the chairman of NDIC, Governor Doug Burgum has stated, “We have a goal of zero leaks and spills.”⁴ This aspiration is yet to be achieved, and iPIPE 3.0 allows the continuation of the journey to an era of zero pipeline releases. iPIPE 3.0 is aligned with North Dakota’s initiatives to innovate. The program accelerates the growth and commercialization of technology specific to pipelines. Technology providers are anticipating participating in the next technology selection event; without continuation of iPIPE 3.0, momentum would be slowed and a North Dakota-based program to engage industry and technology entrepreneurs would be diminished. It is important for iPIPE 3.0 to continue technology development, which ultimately decreases the risks facing the industry. Artificial intelligence, machine learning, satellite, and drone-based technologies are developing rapidly. iPIPE 3.0 is needed to provide collaborative industry direction that streamlines the deployment of these technologies. The membership appreciates the technology scouting, quick turn-around time, and hands-on opportunity that iPIPE provides. The program has the track record and experience to continue success and cannot continue without the support of OGRP.

³ <https://ndpipelines.files.wordpress.com/2023/07/kringstad-nd-ogrp-7-21-23.pdf>.

⁴ <https://news.prairiepublic.org/local-news/2019-12-18/eerc-led-project-aims-to-reduce-oil-spills>.

STANDARDS OF SUCCESS

- **Technology Scouting** – The EERC maintains a database currently comprising over 145 technology providers. Scouting efforts should result in at least ten successful invitations for proposals for the technology selection event.
- **Technology Selection** – iPIPE will complete a technology selection event resulting in projects that are executed over the contracted term of the project.
- **Deployment** – At least one technology will achieve commercial deployment related to iPIPE support.
- **Recognition** – The program will achieve recognition in industry journals or through awards.
- **Reporting** – The EERC delivers program reports to OGRP and members.

The ultimate value to North Dakota is in iPIPE's ability to bring new technology to the industry serving the state in which the technology improves pipeline integrity.

BACKGROUND/QUALIFICATIONS

With support from NDIC through OGRP, the organizations participating in iPIPE 3.0 include the EERC, Hess Corporation; Oneok, Inc.; Energy Transfer; TC Energy Corporation; Marathon Petroleum Logistics (MPLx); and one other corporate member. Industry members operate pipelines and include interstate assets. Organizational qualifications and resumes of key personnel are provided in Appendix D. The EERC's team of dedicated professionals have decades of experience in technical disciplines, research contracts, project management, communications, and government affairs.

MANAGEMENT

iPIPE is managed by Darren Schmidt, Program Director; Austin McRae, Project Director; Michelle Olderbak, Program Manager; and project advisors, Josh Stanislawski and Michael Warmack. The EERC is the contracting authority with OGRP and engages in contracts with the technology providers. The EERC enters into agreements with the iPIPE members that outline the obligations of both parties. The EERC is obligated to the iPIPE membership and is responsible to align membership and OGRP priorities. The

EERC manages project milestones and tracks progress, including financial monitoring and reporting to all parties. iPIPE coordinates and conducts a technology selection event and annual member forum and ensures that activities are on schedule by conducting monthly meetings. iPIPE projects are conducted under contracts with technology providers that specify project milestones tied to financial support.

TIMETABLE

The project period is January 2024 through December 2025, as shown in the timetable below. Project activities and member commitments are for 2 years. The technology selection event will be planned for Quarter (Q) 2 2024. Technology selection is necessary early in the schedule to allow time to complete demonstrations. Events are staggered as new members may join later. The membership will review project completion status and program continuance in the third quarter of 2025.

| Activity | 2024 | | | | 2025 | | | |
|---------------------------------------|------|----|----|----|------|----|----|----|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Technology Selection | | * | | | | | | |
| iPIPE Member Forum | | | | * | | | | * |
| Program Update to OGRP | | | | * | | | | * |
| Quarterly Reporting | * | * | * | * | * | * | * | * |
| Comprehensive Final Report | | | | | | | | * |
| Technology Contracting Period | | | | | | | | |
| Member Financial Commitments | * | | | | * | | | |
| Decision for Ongoing Program | | | | | | | * | |
| Completion of All Technology Projects | | | | | | | | * |

BUDGET

The total cost of the proposed effort is \$6,000,000. \$3,000,000 is requested from OGRP, with \$1,000,000 contingent upon the outcome of the technology selection process. Cost share is provided by iPIPE members totaling \$900,000 cash and in-kind support from technology suppliers of \$2,100,000 with commensurate contingency. The program is expected to grow in membership and member contributions. In-kind cost share will occur on behalf of technology suppliers and from member support provided for technology demonstration. Current partner organizations have expressed a desire to continue participation in the program. A budget is provided below. Budget notes can be found in Appendix E.

| Project-Associated Expense | NDIC Share (cash) | NDIC Contingent (cash) | Member Share (cash and in-kind) | Member Contingent (cash) | Total Project |
|---|--------------------|------------------------|---------------------------------|--------------------------|--------------------|
| Labor | \$0 | \$0 | \$499,307 | \$0 | \$499,307 |
| Travel | \$0 | \$0 | \$28,953 | \$0 | \$28,953 |
| Supplies | \$0 | \$0 | \$1,200 | \$0 | \$1,200 |
| Subcontractor – Technology Selection #1 | \$487,250 | \$0 | \$0 | \$0 | \$487,250 |
| Subcontractor – Technology Selection #2 | \$487,250 | \$0 | \$0 | \$0 | \$487,250 |
| Subcontractor – Technology Selection #3 | \$487,250 | \$0 | \$0 | \$0 | \$487,250 |
| Subcontractor – Technology Selection #4 | \$487,250 | \$0 | \$0 | \$0 | \$487,250 |
| Subcontractor – Technology Selection #5 | \$0 | \$487,250 | \$0 | \$0 | \$487,250 |
| Subcontractor – Technology Selection #6 | \$0 | \$487,250 | \$0 | \$0 | \$487,250 |
| Printing and Duplicating | \$0 | \$0 | \$580 | \$0 | \$580 |
| Food | \$0 | \$0 | \$3,540 | \$0 | \$3,540 |
| Freight | \$0 | \$0 | \$443 | \$0 | \$443 |
| Laboratory Fees and Services | | | | | |
| Document Production Service (Graphics, Editing, and Workflow) | \$0 | \$0 | \$10,332 | \$0 | \$10,332 |
| Software Solution Services | \$0 | \$0 | \$1,722 | \$0 | \$1,722 |
| Technical Software Fee | \$0 | \$0 | \$145 | \$0 | \$145 |
| Engineering Services Fee | \$0 | \$0 | \$2,859 | \$0 | \$2,859 |
| Field Safety Fee | \$0 | \$0 | \$13,419 | \$0 | \$13,419 |
| Total Direct Costs | \$1,949,000 | \$974,500 | \$562,500 | \$0 | \$3,486,000 |
| Facilities and Administration | \$51,000 | \$25,500 | \$337,500 | \$0 | \$414,000 |
| Total Cash Requested | \$2,000,000 | \$1,000,000 | \$900,000 | \$0 | \$3,900,000 |
| In-Kind Cost Share | | | | | |
| Technology Providers | \$0 | \$0 | \$1,100,000 | \$1,000,000 | \$2,100,000 |
| Total In-Kind Cost Share | \$0 | \$0 | \$1,100,000 | \$1,000,000 | \$2,100,000 |
| Total Project Costs | \$2,000,000 | \$1,000,000 | \$2,000,000 | \$1,000,000 | \$6,000,000 |

TAX LIABILITY

The EERC, a department within the University of North Dakota (UND), is a state-controlled institution of higher education and is not a taxable entity; therefore, it has no tax liability to the state of North Dakota or any of its political subdivisions.

CONFIDENTIAL INFORMATION

No confidential information is included in this application. Confidentiality regarding research activity conducted under the program is handled in separate agreements between the EERC and the parties.

PATENTS/RIGHTS TO TECHNICAL DATA

No patents or rights are identified for reservation in the application.

STATUS OF ONGOING PROJECTS

The EERC is currently engaged in nine OGRP-funded projects as shown in the table below. These projects are ongoing and current on all deliverables.

| Project Title | Contract Award No. |
|---|---------------------------|
| iPIPE: The intelligent Pipeline Integrity Program | G-046-88 |
| Improving EOR Performance Through Data Analytics and Next-Generation Controllable Completions | G-050-97 |
| PCOR Initiative to Accelerate CCUS Deployment | G-050-96 |
| Unitized Legacy Oil Fields: Prototypes for Revitalizing Conventional Oil Fields in North Dakota | G-045-086 |
| iPIPE 2.0: The intelligent Pipeline Integrity Program | G-055-108 |
| Bakken Production Optimization Program 4.0 | G-058-115 |

APPENDIX A
PAST PROJECTS

PIPELINE RISK



Application

- Advanced risk identification.
- Leverage ML processes and technology to support pipeline and facility risk mitigation.

Development

- Explored application with customer and regional data.

Success

- Application identifies higher-risk areas of pipeline segments and ranks risk.



DIRECT-C

Sensing of Hydrocarbons and Produced Water



Application

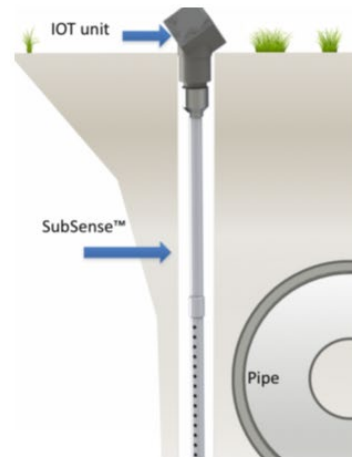
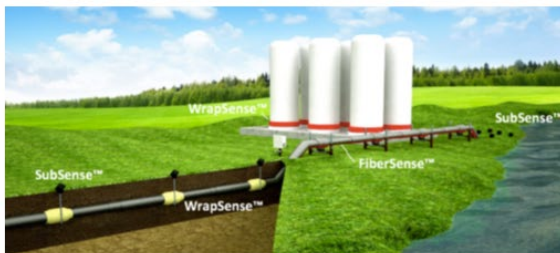
- Useful in focused areas.
- Attached on or near pipe and equipment.

Development

- Pushed technology beyond HC application exploring PW.
- Enhanced installation methods, product hardware, alarm algorithms, and remote communications.

Success

- In use in North Dakota.
- Achieved growth in eight states, Canada, and Europe.



INGU SOLUTIONS



iPIPE

Application

- Advanced in-line inspection.
- Advanced technology for gathering lines that are otherwise difficult to inspect.

Development

- Demonstrated Pipers capability in operational pipelines.
- Developed launch and receive methods.
- Validated repeatability between free-floating and cleaning pig deployments.

Success

- INGU has operated in North Dakota and inspected over 300 pipelines for over 100 customers in 15 countries, building a network of nine agents.



SATELYTICS

Application

- Leak detection from space.
- Advanced processing and algorithms of satellite data to provide actionable alerts.

Development

"We often state that iPIPE was beneficial in providing copious amounts of data to train our algorithms. With 3 years of weekly monitoring, our algorithms were provided with an extensive training opportunity." – Sean Donegan, [Satelytics](#) President and CEO.

Success

- Deployed commercially in North Dakota on the Pelican Pipeline system.
- Projects with BP: leak detection and chemical and carbon accounting.
- Duke Energy (methane), Central Hudson Gas & Electric, Washington Gas, Southern Company, ADNOC, SoCalGas, ItalGas, Oxy, Dominion Energy.

iPIPE



APPENDIX B

CORPORATE ACKNOWLEDGMENTS

HESS CORPORATION 2022 Sustainability Report

Intelligent Pipeline Integrity Program

Hess continues active involvement in iPIPE, a collaboration of oil and gas operators and the University of North Dakota's Energy and Environmental Research Center, which aims to review advanced technologies that enhance pipeline integrity efforts (including remote emissions monitoring by drones). Hess works with iPIPE members to review a range of technologies and choose a few for additional investment and testing.

Using Advanced Technology to Enhance Release Detection

As part of our commitment to safeguarding the environment, Hess has been supporting the development of advanced release detection technologies for years. In 2022, we further progressed this work by implementing a near daily remote sensing protocol that significantly enhances our release detection capabilities. This technology, developed by Satelytics and supported by Hess since 2018, uses geospatial analytics, proven algorithms and unique data collection methodology to identify, locate and measure potential releases as well as physical risks in both upstream and midstream infrastructure.

Satelytics' approach uses a mix of satellites, drones, stratospheric balloons, airplanes, fixed cameras and onsite hardware to assess specific equipment,

overall sites and higher level landscapes for signs of potential releases.

They analyze the multispectral imagery that is collected through a combination of automated software and proprietary algorithms and provide alerts to operators when potential issues are detected. This process enables near-continuous measurement, early detection and remote investigation of potential issues.

Our initial implementation of this technology is focused on detecting liquid releases, such as hydrocarbons and produced water. The technology will ultimately be used to detect land movement and erosion, encroachments on right of ways, vegetation management and coarse resolution methane detection.



PARTICIPATION IN KEY RESEARCH PARTNERSHIPS

With our sights set on the future, we continue to collaborate and partner with key organizations inside and outside the energy industry, including the:

- [Pipeline Research Council International \(PRCI\)](#), a community of the world's leading pipeline companies established to develop and deploy research solutions improving pipeline safety and performance,
- PIPE SAFE Group (PSG), an international group of gas transmission companies established to collaborate in the study of the hazards and risks involved in gas transmission by pipelines,
- [Emerging Fuels Institute \(EFI\)](#), of which we are a founding member, addressing the most pressing knowledge gaps in hydrogen,
- [Center for Hydrogen Safety](#) group promoting hydrogen safety and best practices worldwide, and
- [Intelligent Pipeline Integrity Program \(PIPE\)](#), focused on advancing detection of pipeline hazards and leaks.

Transforming Energy Future Continued

In addition, ONEOK Capital Ventures is focused on exploring and investing in innovative technologies that tie to our core business and seek to provide solutions for a transforming energy future. We work with other energy companies to support new technologies and also may make direct equity investments in early-stage energy technology companies that are intended to help improve our operations and are aligned with the energy transformation. Recent investments include:

- Energy Technology Startup Hub Initiative** - ONEOK, along with leading energy companies and organizations, committed funds towards a new venture capital fund aimed at transforming Oklahoma into a hub for energy technology startups. The initiative intends to attract energy technology startups to the region through access to resources such as free office space, early-stage capital and services to accelerate innovation to meet growing energy demands and create a more sustainable future. By fueling research and development and forward-looking technologies, the initiative is expected to create more than 1,700 jobs across the energy industry.
- Orbital Sidekick** - ONEOK made a minority direct equity investment in Orbital Sidekick (OSK), a startup company that aims to generate space-based data intelligence using its proprietary constellation of satellites equipped with hyperspectral sensors. Using these satellites, OSK will monitor assets for sustainable operations, ESG and security goals. Hyperspectral imaging (HSI) is a technology that analyzes a wide spectrum of light reflecting off Earth's surfaces. Companies could use the information collected to monitor critical infrastructure, minimize emissions, exceed regulatory requirements and support a lower-carbon future. This technology could also allow companies to scan assets within a day to inspect for damage after a storm.

Prior to investing, ONEOK helped Orbital Sidekick test its technology through participation in the Intelligent Pipeline Integrity Program (IP²I). ONEOK sees multiple potential future application benefits and potential industry-wide scalability of Orbital Sidekick's technology, including potential opportunities for right-of-way monitoring, vegetation management and erosion monitoring.



Orbital Sidekick satellite

Industry Collaborations

*Energy Transfer aligns with organizations that focus on emissions reductions, sharing in best reporting practices, research, and the development of new technology to **promote safety and improve environmental performance.***

EMERGING FUELS INSTITUTE

PRCI established the Emerging Fuels Institute (EFI) to help resolve the technical gaps that exist as the industry transitions to low carbon energy solutions using the existing pipeline asset infrastructure. Members execute the research needed to ensure the safe transportation and storage of emerging fuels, such as hydrogen, renewable natural gas, and other potential gas and liquid fuel sources, that will help meet the world's energy needs while reducing the impact to the environment. Energy Transfer is a "Vanguard" member and maintains a leadership position in the EFI.

ENERGY INFRASTRUCTURE COUNCIL AND GPA MIDSTREAM

In 2022, the Energy Infrastructure Council (EIC) and GPA Midstream released Version 2.0 of the Midstream ESG Reporting Template. The ESG Reporting Template is the product of an extensive review of best practice ESG reporting among member companies and the ESG reporting requirements from numerous critical stakeholders. The collaborative process included members from both EIC and GPA Midstream (including Energy Transfer) and featured significant participation from in-house ESG specialists and professionals with operational and technical expertise.



INTELLIGENT PIPELINE INTEGRITY PROGRAM

The Intelligent Pipeline Integrity Program (iPIPE) is an industry-led consortium whose focus is to contribute to the advancement of new and emerging technologies to prevent and detect gathering pipeline leaks. Our participation in iPIPE is a proactive industry effort to evaluate new technologies that can be used for leak detection, leak prevention, change detection and pipeline risk modeling.

PIPELINE RESEARCH COUNCIL INTERNATIONAL

The Pipeline Research Council International (PRCI) is an industry research forum for technology developments and projects that assure the safe, reliable, environmentally sound and cost-effective pipeline transportation of energy to consumers worldwide. Energy Transfer participates in a leadership role in PRCI through Board membership and active participation in every technical committee, including the CO₂ Task Force. Many of the research projects focus on the development of new technologies that help reduce direct and indirect emissions from pipeline operations.

Pipeline Surveillance Technology Committee

Our Pipeline Surveillance Technology Committee was formed in 2016 to evaluate available technologies within the pipeline industry and determine implementation potential on Energy Transfer assets. The committee also evaluates current testing and new or advancing technologies within the industry through various industry consortiums and state or federal programs such as **iPIPE**, PRCI, FAA, HSAC and Texas A&M.

Additional committee functions and 2022 highlights include:

- Recommendations for pilot study programs to be initiated on Energy Transfer assets.
- Increase member participation across business segments (Environmental, Regulatory Affairs, IT – SCADA and Engineering) to broaden groups' ability to address regulatory drivers such as Greenhouse Gases (GHGs), Environmental, Social, Governance (ESG) criteria, Leak Detection and Repair (LDAR) and methane mitigation, and recommend proven technologies that can be deployed for specific applications.
- Utilized Orbital Sidekicks (OSK) Optical Gas Imagery technology via fixed-wing aircraft to satisfy regulatory methane leak detection survey requirements in Southeast New Mexico. OSK's satellite technology enables earlier detection and prevention of leaks along pipeline rights-of-way, using hyperspectral data analysis to drive broad improvements in community safety, environmental performance and overall operating efficiency.
- Guidance on the use of drone technology by company and contractor personnel relative to company assets.
- Evaluated stationary methane detection technology at a gas processing facility in Oklahoma.
- Participated on the Intelligent Pipeline Integrity Program (**iPIPE**) technology committee managed by the Environmental and Energy Research Center (EERC) from the University of North Dakota which conducted four research projects focused on leak detection (liquid and gas), change detection (geohazards) and pipeline surveillance (damage prevention).
- Participated in the Pipeline Research Council International (PRCI) Surveillance Operations & Monitoring committee which had six active research projects focusing on leak detection, change detection and pipeline surveillance.



APPENDIX C
COMMITMENT LETTERS

October 17, 2023

Mr. Brent Brannan
Director
Oil & Gas Research Program
State Capitol, 14th Floor
600 E Boulevard Ave.
Dept.405
Bismarck, ND 58505-0840

Subject: Program Entitled "iPIPE 3.0"

Dear Mr. Brannan:

Enbridge is committed to our participation in iPIPE and advancing leak detection technology. The program provides scouting of new technology and is aligned with our priorities. Enbridge has been participating with an annual membership of \$75,000 per year and will continue into the next program period including support of projects as decided by the membership.

The EERC 's proposal matches the iPIPE members' commitment with the NDIC's Oil & Gas Research Program (OGRP) support. Commitment is contingent on the award of matching funds from the OGRP and other pipeline operators participating in the program.

Sincerely,

A handwritten signature in black ink that reads "Philip Martin". The signature is written in a cursive style with a large, stylized initial "P".

Philip K. Martin
Manager, TIS PCSLD Leak Detection, Enbridge Inc.



October 9, 2023

Mr. Brent Brannan
Director, Oil & Gas Research Program
State Capitol, 14th Floor
600 E Boulevard Ave.
Dept.405
Bismarck, ND 58505-0840

Subject: Program Entitled "iPIPE 3.0"

Dear Mr. Brannan:

Energy Transfer is actively engaged in the iPIPE program and wishes to continue with the members and the EERC for iPIPE 3.0. The program helps to realize new technology that is on the cutting edge of leak detection and prevention. Continuing the program builds on our success and fosters collaboration.

Energy Transfer, in collaboration with other members of the iPIPE consortium, is committing \$75,000 per year for the proposed program to be matched with OGRP support. iPIPE members are committed to providing in-kind support for project demonstrations at facilities decided by the membership. Commitment is contingent on the award of matching funds from NDIC's Oil & Gas Research Program and other pipeline operators participating in the program.

Sincerely,

A handwritten signature in blue ink, appearing to read "KGR".

K. Grant Ruckel
Vice President, Government Affairs

KGR:jb



Hess Corporation
1501 McKinney Street
Houston, TX 77010

October 1, 2023

Mr. Brent Brannan
Director
Oil & Gas Research Program
State Capitol, 14th Floor
600 E Boulevard Ave.
Dept.405
Bismarck, ND 58505-0840

Subject: Program Entitled "iPIPE – intelligent Pipeline Integrity Program”

Dear Mr. Brannan:

This letter is provided to convey Hess Corporation’s intent to fund and actively participate in iPIPE in accordance with the proposal submitted to the North Dakota Oil and Gas Research Program (OGRP). We believe this industry-led research builds on our previous success and accelerates innovation for pipeline integrity. The program is driving innovation of new technology for pipeline leak detection and prevention. Continuing the program provides continuity among our members and assists the adoption of new technology.

Hess Corporation, in collaboration with other members of the iPIPE consortium, is committing \$75,000 per year for the proposed program to be matched with OGRP support. iPIPE members are committed to providing in-kind support for project demonstrations at facilities decided by the membership. Hess Corporation’s commitment is contingent on the award of matching funds from NDIC's Oil & Gas Research Program and other pipeline operators participating in the program.

Sincerely,

A handwritten signature in black ink, appearing to read "Brent Lohnes", written over a light blue horizontal line.

Brent Lohnes
General Manager-North Dakota
Hess Corporation



1611 E. Century Ave., Ste. 300
Bismarck, ND 58503

October 1, 2023

Mr. Brent Brannan
Director
Oil & Gas Research Program
State Capitol, 14th Floor
600 E Boulevard Ave.
Dept.405
Bismarck, ND 58505-0840

Subject: Program Entitled "iPIPE – intelligent Pipeline Integrity Program"

Dear Mr. Brannan:

This letter is provided to convey Marathon Petroleum Logistics' (MPLX) intent to participate in iPIPE in accordance with the proposal submitted to the North Dakota Oil and Gas Research Program (OGRP). We believe this industry-led research builds on our previous work and accelerates innovation for pipeline integrity. MPLX intends to provide \$75,000 per year as a member of the program and will support projects as decided by the membership. MPLX's commitment is contingent on the award of matching funds from the OGRP and other pipeline operators participating in the program.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Darren Snow', with a stylized flourish at the end.

Darren Snow
Director
North West Area of Operations
Marathon Petroleum Logistics

October 26, 2023

Mr. Brent Brannan
Director
Oil & Gas Research Program
State Capitol, 14th Floor
600 E Boulevard Ave.
Dept.405
Bismarck, ND 58505-0840

Subject: Program Entitled "iPIPE 3.0"

Dear Mr. Brannan:

ONEOK has been a committed member of iPIPE and pleased to be on the forefront on technology with the EERC and the iPIPE member organizations. ONEOK intends to continue with the iPIPE 3.0 program at \$75,000 per year to be matched with the North Dakota Oil and Gas Research Program (OGRP) funding. Participation is contingent on the award from the OGRP and the iPIPE members' participation. ONEOK has been supporting iPIPE projects with in-kind participation and intends to continue based on decisions by the membership.

Sincerely,



Jeffrey Ector
Supervisor Prevention & Mitigation
ONEOK, Inc.

From: Tania Rizwan <tania_rizwan@tcenergy.com>
Sent: Friday, October 27, 2023 6:57:04 PM
To: Schmidt, Darren <dschmidt@undeerc.org>
Cc: Thamar Mora <thamar_mora@tcenergy.com>
Subject: RE: [EXTERNAL] iPIPE proposal

Hi Darren,

Thamar asked me to respond on her behalf as she is travelling for work.

We are pleased to let you know we've received positive response from our management to move ahead with being a part of iPIPE 3.0. As you know TC Energy has been an integral part of iPIPE 2.0 and we see value in continuing this partnership in the next year with iPIPE 3.0. We appreciate your patience as we work through the logistics of identifying the funding of this membership internally and will provide the formal letter as soon as that is confirmed and finalized.

Thank you again for your patience.

Best Regards,

Tania Rizwan Ph.D., P.Eng. (she/her)
Senior Leak Detection Engineer
Leak Detection Engineering, Liquids Operations
Desk: (587)-933-3364 Mobile: (403)-6837-1439



APPENDIX D

RESUMES AND ORGANIZATION QUALIFICATIONS



DARREN D. SCHMIDT

Assistant Director for Energy, Oil, and Gas
Energy & Environmental Research Center (EERC), University of North Dakota (UND)
15 North 23rd Street, Stop 9018, Grand Forks, North Dakota 58202-9018 USA
701.777.5201, dschmidt@undeerc.org

Education and Training

B.S., Mechanical Engineering, West Virginia University, 1994.
Registered Professional Engineer (Mechanical and Petroleum).

Research and Professional Experience

February 2021–Present: Assistant Director for Energy, Oil, and Gas, EERC, UND.

- Leads a team focused on research, development, and commercialization related to efficient and clean fossil fuel production, utilization, carbon management, and alternative fuels and renewable energy.

Principal areas of interest and expertise include oil and gas facilities, production, injection, well stimulation, enhanced recovery, power generation, and renewable technologies.

2016–January 2021: Principal Engineer, Research and Technology, Equinor, Williston, North Dakota.

- Provided leadership for Equinor’s research portfolio in Bakken/Williston Basin, with focus on low carbon.
- Developed project focused on reducing flaring in which patent application was filed.
- Earlier work included leading team to develop CO₂ used in well stimulations.
- Through Equinor’s involvement with North Dakota Oil and Gas Research Program, research was completed to address requirements surrounding crude oil vapor pressure.
- Worked closely with Equinor’s Williston office regional manager to support operations, including serving as regulatory liaison for emergency response team.

2013–2016: Completions Engineer, Statoil Completions, Williston, North Dakota.

- Served as completions engineer for Williams County, with strong focus on safe operations.
- Led successful program in 2015 to use 10% produced water in Statoil hydraulic fracturing operations.
- Oversaw hydraulic fracture designs, quality of operations, implementing new procedures, enforcing standard operating procedures, and approving fieldwork.
- Mentored interns and completions-related research projects to improve performance.

2012–2013: Technical Advisor, Weatherford Fracturing Technologies, Williston, North Dakota.

- Provided leadership to Williston district to ensure job quality, safety, personnel management, education, and training.
- Supported revenue; provided intelligence; conducted marketing; provided urgent response to customers, field services, and client-based technical assistance; and ensured quality reporting.
- Provided technical guidance to district stimulation fluids laboratory.

2008–2012: Senior Research Advisor, EERC, UND.

- Oversaw procurement and execution of research projects related to Bakken Formation in Williston Basin. Projects included utilization of associated gas in drilling operations, laboratory investigation of conductivity associated with proppants, fracturing fluids, and rock formations, enhanced production from coal bed methane, geologic storage of CO₂, and oil-field drilling, production, and workover operations.
- Served as advisor to distributed biomass gasification development and contributed to organization's revenue through research proposals, publications, and intellectual property.

1998–2008: Research Manager, EERC, UND.

- Secured research contracts, managed projects, and performed engineering tasks in the areas of cofiring and biomass power systems, including combustion, fluidized-bed, gasification, microturbine, and internal combustion engine generators; energy efficiency; ground-source heat pumps; hydrogen production from biomass; and researching the behavior of biomass in combustion systems relative to ash fouling and trace elements.

1994–1998: Mechanical Engineer, Research Triangle Institute (RTI), Research Triangle Park, North Carolina.

- Served as project leader for \$3M Cooperative Agreement with U.S. Environmental Protection Agency (EPA) to demonstrate electricity production using 1-MW wood gasification technology.
- Significant experience included permit, design, installation, operations, and reporting.
- Other activities included support of marketing activities and coauthoring publications.

Summer 1993: Internship, EERC, UND, Grand Forks, ND.

- Supported combustion and coal ash studies.

Summer 1992: Internship, Foster Wheeler Development Corporation, Livingston, New Jersey.

- Supported gasification research and development.

Professional Activities

Appointed Member, North Dakota Oil and Gas Research Council
Cochair, North Dakota Petroleum Council Technology Solutions Group
Section Chair, Williston Basin Society of Petroleum Engineers

Publications

Has authored or coauthored over 80 peer-reviewed and other professional publications.

Patents

Method and Apparatus for Supply of Low-Btu Gas to an Engine Generator. U.S. Patent 8,460,413, June 11, 2013.

Application of Microturbines to Control Emissions from Associated Gas. U.S. Patent 8,418,457, April 16, 2013.

Hydrocarbon Gas Recovery Methods. U.K. Application No. 2009516.2, filed June 22, 2020.



T. AUSTIN MCRAE

Oilfield Operations Specialist

Energy & Environmental Research Center (EERC), University of North Dakota (UND)

15 North 23rd Street, Stop 9018, Grand Forks, North Dakota 58202-9018 USA

701.777.5402, amcrae@undeerc.org

Education and Training

B.S., Petroleum Engineering, Colorado School of Mines, Golden, Colorado, 2014.

Proficient in the use of Microsoft Office Suite, Baker Hughes Job Monitoring Programs, Windows XP, 7, 8, 10.

Certifications include SafeGulf, SafeLandUSA, and Core Compliance (PEC Safety) and Baker Hughes Engineer Development Program and Stimulation Technical Academy.

Research and Professional Experience

2016–Present: Research Engineer, Integrated Petroleum Systems, EERC, UND.

- Works in the areas of process engineering and design for wellsite operations, pipeline transport, environmental science related to oilfield operations, and operation of pilot-scale carbon capture systems.
- Serves as Co-Project Manager of the Intelligent Pipeline Integrity Program (iPIPE) at the EERC, an industry-led consortium whose focus is to contribute to the advancement of near-commercial, emerging technologies to prevent and detect leaks from gathering pipelines, and serves as Chief Technology Scout for iPIPE, the primary contact for interested technology developers.

Accomplishments have included:

- Searching for and identifying most promising emerging technologies.
- Assessing fit of potential technologies with program and communicating iPIPE goals to technology providers.
- Helping technology providers understand how to address needs of member companies with their products.
- Assisting engaged technology providers in honing their proposals to meet member expectations.
- Offering project support, as needed, particularly in the field.

Principal areas of interest and expertise include petroleum industry operations and support, specifically well stimulation; enhancing coordination between energy industry and environmental efforts through improved technology, practice, and understanding; and advanced energy technologies.

2016: Supply & Logistics Coordinator – AmeriCorps National Service Member, SBP (formerly St. Bernard Project), New Orleans, Louisiana/Columbia, South Carolina.

- Worked directly with project managers to ensure all active home construction sites and field personnel received necessary materials and support; managed warehouse stock, tools, and materials while assisting in procurement of nonstock items; and assisted in delivery and transport of all items. Accomplishments included:
 - Assisting team with cross-town warehouse move, including new layout design, vehicle logistics, and storage construction.
 - Improving vehicle safety within organization through implementation of experience best practices and increased load securement awareness.

- Creating safer construction sites through application of affordable security measures specifically intended to deter intruders at all times and better secure valuable tools and resources overnight.

2014–2015: Stimulation/Field Engineer, Permian Basin, Baker Hughes Pressure Pumping, Artesia and Hobbs, New Mexico/Odessa, Texas.

- Responsibilities included ensuring technical product and service delivery through laboratory and field testing, technician management, on-site job monitoring, and customer interaction; analyzing job results; and generating posttreatment and regulatory reports. Accomplishments included:
 - Enhancing service delivery by pumping and changing between multiple fluid systems as needed based on customer request and preference.
 - Avoiding nonproductive time (NPT) by anticipating customer requests and having additional products available on location for critical or experimental wells.
 - Managing jobs from beginning to end on locations throughout Permian Basin, treating multiple formations using slickwater, crosslinked, produced water, acid, and hybrid systems.
 - Maintaining and promoting interdependent safety culture regardless of customer or location, resulting in zero injuries or incidents while present or involved.

2013: Roustabout, Champion Oilfield Service, Wiggins, Colorado.

- Collaborated with a multifunctional team to construct and maintain oilfield infrastructure for operators in Denver–Julesberg Basin. Projects included building tank batteries, repairing compressors and pumping units, and creating flow lines from wellhead to separators, batteries, and sales lines. Accomplishments included:
 - Minimizing hydrocarbon gas emissions into atmosphere through thorough pipe testing, inspection, and repair before installing underground and connecting to live system.
 - Conducting operations in safest possible manner, resulting in zero injuries to self or team as well as minimal waste and litter to environments surrounding construction sites.

2012: Construction Office Coordinator, St. Bernard Project, New Orleans, Louisiana.

- Coordinated and communicated between multiple on-site and centrally located project managers to ensure smooth rehabilitation and repair of homes for people most adversely affected by Hurricane Katrina, including interfacing with local government agencies, obtaining permits, and ensuring projects met codes and standards.

Professional Activities

Member, Society of Petroleum Engineers

Publications and Presentations

Has authored or coauthored several professional publications.



JOSHUA J. STANISLOWSKI

Director of Energy Systems Development
Energy & Environmental Research Center (EERC), University of North Dakota (UND)
15 North 23rd Street, Stop 9018, Grand Forks, North Dakota 58202-9018 USA
701.777.5087, jstanislawski@undeerc.org

Education and Training

M.S., Chemical Engineering, University of North Dakota, 2012.
B.S., Chemical Engineering, University of North Dakota, 2000.
Six Sigma Green Belt Certified, August 2004.

Research and Professional Experience

August 2019–Present: Director of Energy Systems Development, EERC, UND.

- Leads multidisciplinary team of scientists and engineers focused on research, development, and commercialization of innovative energy technologies as they relate to coal utilization and emissions, carbon management, and alternative fuels and renewable energy.
- Serves as Co-Project Manager of Intelligent Pipeline Integrity Program (iPIPE) at EERC, an industry-led consortium whose focus is to contribute to advancement of near-commercial, emerging technologies to prevent and detect leaks from gathering pipelines.
- Principal areas of interest and expertise include coal and biomass gasification systems with an emphasis on novel syngas cooling, cleanup, and separation technologies.
- Has worked extensively with hydrogen separation membrane systems and liquid fuels catalysis. Proficient in process modeling and systems engineering including techno-economic studies using Aspen Plus software.
- Has significant experience with process engineering, process controls, and project management.
- Has a strong background in gauge studies, experimental design, and data analysis.

2015–July 2019: Principal Process Engineer, Energy Systems Development, EERC, UND.

- Worked closely with EERC management team to develop new programmatic directions to solve challenges in the energy industry.
- Managed projects in areas of gasification, CO₂ capture, supercritical CO₂ power cycles, and systems engineering.

2008–2015: Research Manager, EERC, UND.

- Managed projects in areas of gasification, gas cleanup, hydrogen production, liquid fuel production, and systems engineering.

2005–2008: Research Engineer, EERC, UND.

- Areas of focus included mercury control technologies and coal gasification.
- Responsibilities involved project management and aiding in completion of projects.
- Duties included design and construction of bench- and pilot-scale equipment, performing experimental design, data collection, data analysis, and report preparation.

- Also worked in the areas of low-rank coal gasification, warm-gas cleanup, and liquid fuels production modeling using Aspen Plus software.

2001–2005: Process Engineer, Innovex, Inc., Litchfield, Minnesota.

- Responsible for various process lines including copper plating, nickel plating, tin–lead plating, gold plating, polyimide etching, copper etching, chrome etching, and resist strip and lamination.
- Duties included all aspects of process line including quality control, documentation, final product yields, continuous process improvement, and operator training.
- Gained extensive knowledge of statistical process control and statistical start-up methodology.
- Proficient with MiniTab statistical software and utilized statistical analysis and experimental design as part of daily work.
- Designed and oversaw experiments as principal investigator; wrote technical reports and papers, including standard operating procedures and process control plans; presented project and experimental results to suppliers, customers, clients, and managers; created engineering designs and calculations; and performed hands-on mechanical work when troubleshooting process issues.
- Demonstrated ability to coordinate activities with varied entities through extensive project management and leadership experience.

1998–2000: Student Research Assistant, EERC, UND.

- Worked on wide variety of projects, including data entry and programming for Center for Air Toxic Metals® (CATM®) database, contamination cleanup program development, using aerogels for emission control, and development of nationwide mercury emission model.

Publications

Has coauthored numerous professional publications.



MICHAEL P. WARMACK

Distinguished Oil and Gas Facilities Engineer

Energy & Environmental Research Center (EERC), University of North Dakota (UND)

15 North 23rd Street, Stop 9018, Grand Forks, North Dakota 58202-9018 USA

701.777.5004, mwarmack@undeerc.org

Education and Training

B.S., Chemical and Petroleum Refining Engineering, Colorado School of Mines, 1981.

Research and Professional Experience

2022–Present: Distinguished Oil and Gas Facilities Engineer, EERC, UND.

- Serves on EERC project teams and works with EERC clients by providing technical leadership/oversight on industrial and governmental projects relating to enhanced oil recovery (EOR) and carbon capture, utilization, and sequestration (CCUS) projects to improve development and production of domestic energy.
- Supports planning, design, selection of materials/treatment programs, costing, reporting, and/or upgrade/retrofit efforts related to production facilities optimization for unconventional oil plays; injection, production, and recycle infrastructure associated with EOR/incremental oil recovery (IOR) in conventional and unconventional oil and gas plays; infrastructure associated with capture and injection of CO₂ for geologic storage; and other emerging challenges associated with oil and gas injection/production processes.
- Has more than 40 years of experience in oil and gas production and operations, facilities design and installation, chemical treatment and optimization, and hands-on experience in multiple engineering disciplines.

2021–2022: Principal Oil and Gas Facilities Engineer, EERC, UND.

- Served on EERC project teams and worked with EERC clients to improve development and production of domestic energy.
- Supported planning, design, selection of materials/treatment programs, costing, reporting, and/or upgrade/retrofit efforts related to production facilities optimization for unconventional oil plays; injection, production, and recycle infrastructure associated with EOR/IOR in conventional and unconventional oil and gas plays; infrastructure associated with capture and injection of CO₂ for geologic storage; and other emerging challenges associated with oil and gas injection/production processes.

2015–2020: Denbury Resources, Plano, Texas.

Was directly involved with Denbury's CO₂ operations within Delhi EOR and natural gas liquids (NGL) facilities (Delhi, Louisiana) and Tinsley EOR unit (Tinsley, Mississippi). Positions held included the following:

Facilities and Optimization Engineer – Delhi EOR Unit

- Provided engineering support on operations for Delhi EOR and NGL facilities.

- Provided recommendations and designs for facility upgrades (EOR facility), new equipment installation (EOR and NGL facilities), programming changes to plant operations, and operational changes within facilities. Efforts resulted in increased operational run time of plant and field operations while providing more efficient separation through plant.
- Worked with vendor on operations of NGL plant, resulting in equipment upgrades and increasing run time of plant from 85% in 2018 to 95% in 2019.
- Initiated monthly mechanical integrity and chemical reviews of plant and field operations.
- Designed and installed oil line to third-party crude blending facility, resulting in additional revenues without costs to unit.

Facilities and Optimization Engineer – Tinsley EOR Facility

- Provided detailed engineering review and recommendations for reducing chemical treatments on injection wells and improving operations of Tinsley EOR facility. Recommendations reflected development of maximum operating rate of EOR facility in terms of momentum, culminating in \$9.2 million investment to upgrade plant. After completion of plant upgrades, injection well treatments were reduced from 40+ treatments/month to ~1 per month while reducing treating chemical expenses by approximately \$2.4 million per year.
- Led engineering review on reduced injection occurring in field. Provided detailed analysis on injection system resulting in recommendation to improve flow in two major distribution lines.
- Instituted monthly mechanical integrity and chemical treating reviews on field operations.

2001–2015: Chaparral Energy, Oklahoma City, Oklahoma.

Directly involved with Chaparral's EOR operations in Texas and Oklahoma Panhandle areas, northeast Oklahoma area, and primary production activities in Oklahoma and Texas Panhandle areas. Positions held included the following:

Facilities Advisor/Facilities Manager (2011–2015)

- Provided project management and engineering oversight for Chaparral's largest CO₂ development that included grassroots 68-mile CO₂ pipeline and grassroots CO₂ capture facility to serve new EOR project in northeast Oklahoma.
- Directly responsible for facility design and integration within all of Chaparral's ongoing and developing EOR projects, resulting in alternative design of field facilities to replace underperforming equipment.
- Initiated standardization of facility designs within EOR projects for compression, water facilities, CO₂ pumps, and cooling facilities.
- Directly involved with developing and maintaining Chaparral's EOR budget, including full field project development costs.
- Recognized as key contributing team member by leading Chaparral in achieving its initial and highest monthly oil production level of 1 MMBO in May 2014.

Operations Manager/Operations Engineer (2001–2011)

- Directly responsible for development of Chaparral's CO₂ expansion programs within active and three new EOR projects within Oklahoma and Texas Panhandle areas. Development work included well intervention, facilities design and installation, chemical reviews on ongoing operations, drilling, and completion programs, WAG design and implementation, and land work support. Chaparral's CO₂ expansion programs realized increase in gross production of over 5100 BOPD from nits involved.

- Directly responsible for securing CO₂ sourcing from Arkalon ethanol plant in Liberal, Kansas, resulting in development of grassroots CO₂ capture facility adjacent to ethanol plant.
- Directly responsible for development, installation, and monitoring of three pipeline projects in southwest Kansas and Oklahoma and Texas Panhandle areas to service new CO₂ projects.
- Instituted chemical squeeze treatment on submersible pump installations to stem scaling of downhome equipment. Treatments resulted in increasing run time of submersible pumps from less than 3 months to 18 months.
- Recognized by Chaparral as key personnel asset within its EOR operations during Chaparral's financial presentations.

1999–2001: WoodGroup ESP, Oklahoma City and Purcell, Oklahoma.

Alliance Manager (2000–2001)

- Directly responsible for alliance with Kerr McGee for submersible pump installation and operation.
- Instituted new design parameters on submersible pump installations that dramatically increased run time of installed equipment. This design resulted in savings of over \$1 million per year to Kerr McGee. Recognized by Kerr McGee for savings to its operations.
- Developed plan for continuous improvement concerning submersible pump installations based upon review of equipment installations and cooperation of WoodGroup's personnel and Kerr McGee's Failure Analysis Team.

Reliability Engineer (1999–2000)

- Directly responsible for investigation into failures on domestic and international customer equipment. Provided summary reports of findings with proposed solutions to prevent future reoccurrence.
- Directly responsible for investigative review on WoodGroup's operating standards, equipment upgrades, and modifications.
- Provided engineering support to in-house quality control on procured and manufactured equipment.

1997–1998: Lead Field Engineer, Occidental Petroleum, Maracaibo, Venezuela.

- Supervised staff of up to 15 field personnel engaged in completions, nondrilling workovers, and downhole operations.
- Coordinated fieldwork with Maracaibo office and camp personnel for workover and production operations, submersible equipment design and installation, and workover rig movements.
- Recognized as key asset in ongoing operations through sale of operations from Occidental to Union Texas Petroleum to Arco and British Petroleum.

1981–1997: Occidental Petroleum and prior subsidiaries, Oklahoma City, Oklahoma.

- Directly involved with ongoing EOR projects in central Oklahoma area that included design of grassroots EOR project in acquired unit for plant and field facilities. Instituted new design for CO₂ distribution system within field.
- Implemented Failure Analysis Team (FAT Team) to extend run time of submersible pump installations within company's EOR operations. FAT Team consisted of operating personnel, a chemical supplier, and a submersible pump supplier. Work from FAT Team resulted in extending run times of submersible pumps from 15 months to over 24 months within 2 years, resulting in reduced operating and equipment costs.
- Led successful acquisition efforts on two producing properties valued at \$3.0 million. Directly involved with unsuccessful acquisition of two companies.

- Continuously enhanced production base from wells ranging in depths from 3000 to 15,000 feet through workover programs, recompletions, stimulations, and changes in artificial lift equipment. Developed and instituted program for having pipeline connection installed prior to frac treatments, resulting in better completions and higher production from wells.
- Developed multistage frac design in vertical wells using bullet perforations, reducing frac time by 50% and resulting in savings of over \$250,000 per job.
- Selected by Oxy to serve on worldwide ESP team to enhance run time and use of ESP equipment.

Publications

Has coauthored numerous professional publications.



MICHELLE R. OLDERBAK

Senior Project Management Specialist

Energy & Environmental Research Center (EERC), University of North Dakota (UND)

15 North 23rd Street, Stop 9018, Grand Forks, North Dakota 58202-9018 USA

701.777.5145, molderbak@undeerc.org

Education and Training

A.A.S. (Administrative Secretary), Northwest Technical College, East Grand Forks, 1995.

Research and Professional Experience

2006–Present: Senior Project Management Specialist, EERC, UND.

- Serves as liaison between Director of Energy Systems Development, Associate Vice President for Research, several principal engineers, and associated internal EERC personnel as well as with external clients and associates.
- Assists project managers and their groups in preparation of program plans, proposals, and topical and periodical reports.
- Initiates procedures for efficient operation and work flow among research supervisors, managers, and clerical workers.
- Establishes and maintains Director of Energy Systems Development’s administrative filing system.
- Coordinates meetings and travel arrangements.
- Performs extensive administrative support activities.
- Coordinates Director of Energy System Development’s projects at all levels and facilitates communication with group.

Principal areas of interest and expertise include data reduction and interpretation as well as data presentation for report preparation.

2000–2006: Technical Research Assistant, Environmental Technologies Research Division, EERC, UND.

- Performed data collection, organization, tracking, and storage.
- Performed preliminary data reduction and interpretation as well as presentation for report preparation.
- Provided first review of draft reports, including organizing data, editing, and proof-reading for format and content.
- Performed administrative duties, including coordinating Senior Research Manager’s projects at all levels and facilitating communication among Environmental Technologies group members.

1997–2000: Research Information Associate, Environmental Technologies Research Division, EERC, UND.

- Served as liaison between Senior Research Manager and internal EERC personnel as well as with clients and associates worldwide.
- Assisted project manager and group in preparation of program plans, proposals, and topical and periodical reports.
- Produced charts, graphs, and data displays by obtaining, compiling, and presenting information in an appropriate format.

- Initiated procedures for efficient operation and work flow among research supervisors, managers, and clerical workers.
- Established and maintained Senior Research Manager's administrative filing system.
- Coordinated meetings and travel arrangements.
- Performed general administrative support activities for entire group.

1996–1997: Research Information Associate, Administrative Resources, EERC, UND.

- Interacted with professional staff and performed variety of duties to meet deadlines for researchers and other personnel.
- Worked with Editing, Graphics, and Workflow Coordinator to produce internal and external correspondence.
- Formatted and produced state and federal forms, technical reports, proposals, and other documents.
- Assisted in gathering and coordinating graphics, slide content, and other technical information.

Publications

Has coauthored several professional publications.

ORGANIZATION QUALIFICATIONS

- **Energy & Environmental Research Center (EERC)** – The EERC is recognized as one of the world’s leading developers of cleaner, more efficient energy to power the world and environmental technologies to protect and clean our air, water, and soil. Our mission is to provide practical, pioneering solutions to the world’s energy and environmental challenges. Our team of more than 280 scientists, engineers, and finance, operations, and other support professionals work together to develop practical solutions to critical global issues. Our comprehensive research portfolio comprises a wide array of services tailored to meet each client’s needs. We have worked with more than 1300 clients in 53 countries worldwide from Fortune 500s to small start-ups. Trusted, dynamic working relationships with industry, government, and research organizations provide the foundation for bringing cutting-edge science and engineering technologies together to resolve critical global challenges.
- **Hess Corporation** – Hess has operated in North Dakota continuously since 1951 and is one of the state’s largest oil and gas producers. Hess operates upstream and midstream facilities both north and south of Lake Sakakawea, which includes over 3000 miles of gathering pipelines for oil, gas, and produced water. The referenced gathering systems were installed over a wide range of years and are constructed of various materials from carbon steel, polypropylene, fiberglass, and FlexSteel. Hess is proactively researching alternative technologies that can be used to economically provide early leak detection and that will aid in determining the integrity of its in-service gathering systems.
- **Oneok, Inc.** – Oneok is a leading midstream service provider and owner of one of the nation’s premier natural gas liquids (NGLs) systems, connecting NGL supply in the Rocky Mountain, Mid-Continent, and Permian regions with key market centers and an extensive network of natural gas gathering, processing, storage, and transportation assets. Oneok is a Fortune 500 company headquartered in Tulsa, Oklahoma, and is included in the S&P 500.
- **Energy Transfer** – Energy Transfer is celebrating 25 years as the U.S. midstream energy leader. Cofounded in 1996 by Kelcy Warren and Ray Davis, Energy Transfer is now one of the most diversified, publicly traded energy infrastructure partnerships in the country, with more than 90,000 miles of pipeline and associated infrastructure traversing 38 states and Canada, international offices in Canada and Beijing, and nearly 10,000 employees. Energy Transfer Partners operates an 1195-mile system, including the Dakota Access and ETCO pipelines, that enables up to 1.1 million barrels per day to be safely transported from North Dakota’s Bakken and Three Forks Formations.
- **TC Energy Corporation** – For more than 70 years, TC Energy has operated pipelines, storage facilities, and power generation plants that support in Canada, the United States, and Mexico. Its facilities operate safely, reliably, and quietly. Core operations include carbon-free energy solutions, 57,900 miles of natural gas pipeline, 653 billion cubic feet of natural gas storage, 3000 miles of hydrocarbon liquids pipelines, and seven power generation facilities with a capacity of 4200 megawatts. Its corporate office is headquartered in Calgary, Alberta.
- **Marathon Petroleum Logistics (MPLx)** – MPLx is a diversified, large-cap master limited partnership formed by Marathon Petroleum Corporation (MPC) that owns and operates midstream energy infrastructure and logistics assets and provides fuels distribution services. MPLx’s assets include a

network of crude oil and refined product pipelines; an inland marine business; light-product terminals; storage caverns; refinery tanks, docks, loading racks, and associated piping; and crude and light-product marine terminals. The company also owns crude oil and natural gas gathering systems and pipelines as well as natural gas and NGL processing and fractionation facilities in key U.S. supply basins. Its headquarters are in Findlay, Ohio.

APPENDIX E
BUDGET NOTES

BUDGET NOTES

ENERGY & ENVIRONMENTAL RESEARCH CENTER (EERC)

BACKGROUND

The EERC is an independently organized multidisciplinary research center within the University of North Dakota (UND). The EERC is funded through federal and nonfederal grants, contracts, and other agreements. Although the EERC is not affiliated with any one academic department, university faculty may participate in a project, depending on the scope of work and expertise required to perform the project.

INTELLECTUAL PROPERTY

The applicable federal intellectual property (IP) regulations will govern any resulting research agreement(s). In the event that IP with the potential to generate revenue to which the EERC is entitled is developed under this project, such IP, including rights, title, interest, and obligations, may be transferred to the EERC Foundation, a separate legal entity.

BUDGET INFORMATION

The proposed work will be done on a cost-reimbursable basis. The distribution of costs between budget categories (labor, travel, supplies, equipment, etc.) and among funding sources of the same scope of work is for planning purposes only. The project manager may incur and allocate allowable project costs among the funding sources for this scope of work in accordance with Office of Management and Budget (OMB) Uniform Guidance 2 CFR 200.

Escalation of labor and EERC recharge center rates are incorporated into the budget when a project's duration extends beyond the university's current fiscal year (July 1 – June 30). Escalation is calculated by prorating an average annual increase over the anticipated life of the project.

The cost of this project is based on a specific start date indicated at the top of the EERC budget. Any delay in the start of this project may result in a budget increase. Budget category descriptions presented below are for informational purposes; some categories may not appear in the budget.

Salaries: Salary estimates are based on the scope of work and prior experience on projects of similar scope. The labor rate used for specifically identified personnel is the current hourly rate for that individual. The labor category rate is the average rate of a personnel group with similar job descriptions. Salary costs incurred are based on direct hourly effort on the project. Faculty who work on this project may be paid an amount over the normal base salary, creating an overload which is subject to limitation in accordance with university policy. As noted in the UND EERC Cost Accounting Standards Board Disclosure Statement, administrative salary and support costs which can be specifically identified to the project are direct-charged and not charged as facilities and administrative (F&A) costs. Costs for general support services such as contracts and IP, accounting, human resources, procurement, and clerical support of these functions are charged as F&A costs.

Fringe Benefits: Fringe benefits consist of two components which are budgeted as a percentage of direct labor. The first component is a fixed percentage approved annually by the UND cognizant audit agency, the Department of Health and Human Services. This portion of the rate covers vacation, holiday, and sick leave (VSL) and is applied to direct labor for permanent staff eligible for VSL benefits. Only the

actual approved rate will be charged to the project. The second component is estimated on the basis of historical data and is charged as actual expenses for items such as health, life, and unemployment insurance; social security; worker's compensation; and UND retirement contributions.

Travel: Travel may include site visits, fieldwork, meetings, and conferences. Travel costs are estimated and paid in accordance with OMB Uniform Guidance 2 CFR 200, Section 474, and UND travel policies, which can be found at <https://campus.und.edu/finance/procurement-and-payment-services/travel/travel.html> (Policies & Procedures, A–Z Policy Index, Travel). Daily meal rates are based on U.S. General Services Administration (GSA) rates unless further limited by UND travel policies; other estimates such as airfare, lodging, ground transportation, and miscellaneous costs are based on a combination of historical costs and current market prices. Miscellaneous travel costs may include parking fees, Internet charges, long-distance phone, copies, faxes, shipping, and postage.

Supplies: Supplies include items and materials that are necessary for the research project and can be directly identified to the project. Supply and material estimates are based on prior experience with similar projects. Examples of supply items are chemicals, gases, glassware, nuts, bolts, piping, data storage, paper, memory, software, toner cartridges, maps, sample containers, minor equipment (value less than \$5000), signage, safety items, subscriptions, books, and reference materials. General purpose office supplies (pencils, pens, paper clips, staples, Post-it notes, etc.) are included in the F&A cost.

Technology Selection Subcontracts: Technology selection subcontracts are funds provided to companies that are selected by the intelligent Pipeline Integrity Program (iPIPE) 3.0 technology selection committee. The EERC will subcontract to the designated companies.

Printing and Duplicating: Page rates are established annually by the university's duplicating center. Printing and duplicating costs are allocated to the appropriate funding source. Estimated costs are based on prior experience with similar projects.

Food: Expenditures for project partner meetings where the primary purpose is dissemination of technical information may include the cost of food. EERC employees in attendance will not receive per diem reimbursement for meals that are paid for by project funds. The estimated cost is based on the number and location of project partner meetings.

Operating Fees: Operating fees generally include EERC recharge centers, outside laboratories, and freight.

EERC recharge center rates are established annually and approved by the university.

Document production services recharge fees are based on an hourly rate for production of such items as report figures, posters, and/or images for presentations, maps, schematics, website design, brochures, and photographs. The estimated cost is based on prior experience with similar projects.

Engineering services recharge fees cover specific expenses related to retaining qualified and certified design and engineering personnel. The rate includes training to enhance skill sets and maintain certifications using Webinars and workshops. The rate also includes specialized safety training and related physicals. The estimated cost is based on the number of hours budgeted for this group of individuals.

Software solutions services recharge fees are for development of customized websites and interfaces, software applications development, data and financial management systems for comprehensive reporting and predictive analysis tools, and custom integration with existing systems. The estimated cost is based on prior experience with similar projects.

Technical software is a use fee for an advanced project management tool. Costs are associated with software, data entry, maintenance, and enhancement of the system.

Field safety fees cover safety training and certifications, providing necessary personal protective equipment, and annual physicals. The estimated cost is based on the number of days individuals are budgeted to work in the field.

Freight expenditures generally occur for outgoing items and field sample shipments.

Facilities and Administrative Cost: The F&A rate proposed herein is approved by the U.S. Department of Health and Human Services and is applied to modified total direct costs (MTDC). MTDC is defined as total direct costs less individual capital expenditures, such as equipment or software costing \$5000 or more with a useful life of greater than 1 year as well as subawards in excess of the first \$25,000 for each award.



1331 32ND AVENUE SOUTH, SUITE 1 - FARGO, ND 58103
PHONE: (701)234-0926 - FAX: (701)234-0576

November 28, 2023

Mr. Reice Haase, Deputy Executive Director
North Dakota Industrial Commission
ATTN: Oil and Gas Research Program
State Capitol – 14th Floor
600 East Boulevard Avenue, Department 405
Bismarck, ND 58505-0840

Re: North Dakota Industrial Commission Contract G055110
Request for Time Extension & Request for Additional Funds
Well Site Thief Hatch Methane Detectors

Dear Mr. Haase:

On behalf of Vareberg Engineering, Ltd. and Blue Rock Solutions, LLC, we would like to request an amendment to Section 2.b of the subject agreement to allow for the Final Report to be submitted on July 1, 2024. Additional Status Reports shall also be submitted on January 1, 2024 and April 1, 2024. The amendment should also change the Terms of the Agreement in Section 24 to end on July 1, 2024.

Blue Rock Solutions would also like to request an amendment to Section 3a of the subject agreement to increase the amount of the contract from \$266,000 to \$436,000 (increase of \$170,000).

Both the request for time extension and request for additional funds are due to the following circumstances:

1. Testing of the devices by Underwriters Laboratories is taking much longer than anticipated (Approximately 9 months of additional time expected).
2. Requests by potential clients for multiple communications protocols increased design time and associated costs.
3. Additional costs were incurred by subcontractor (Signum, LLC) to develop user interface to access collected information from the Cloud (Web Portal).
4. Additional costs for 3rd Party testing by Colorado State University System Methane Emission Technology Evaluation Center (METEC)
5. Additional costs for design revisions following initial 3rd Party testing.

Please refer to Attachment A – Revised Budget and Attachment B – Funding Source Updates for more detailed information.

If these requests are acceptable, please issue an amended agreement at your convenience. Please let us know if you have any questions or require additional information.

Respectfully submitted,

VAREBERG ENGINEERING, LTD.

Troy D. Vareberg, PE

Enclosures:

Attachment A – REVISED BUDGET
Attachment B – FUNDING SOURCE UPDATES

ATTACHMENT A – REVISED BUDGET

| PROJECT ASSOCIATED EXPENSE | Hrs | Rate/hour | Total Cost | NDIC Share | Applicant's Share |
|--|------------|------------------|-------------------|-------------------|--------------------------|
| Engineering/Design | | | | | |
| Project Manager (Blue Rock) | 160 | \$160 | \$25,600 | \$0 | \$25,600 |
| Design Engineer (Blue Rock) | 160 | \$125 | \$20,000 | \$0 | \$20,000 |
| Contractor (Signum, LLC) | | | \$60,000 | \$45,000 | \$15,000 |
| Project Manager (Blue Rock) | 160 | \$175 | \$28,000 | \$0 | \$28,000 |
| Contractor (Signum, LLC) - Redesign | | | \$60,000 | \$45,000 | \$15,000 |
| Fabrication / Lab Testing | | | | | |
| Project Manager (Blue Rock) | 160 | \$160 | \$25,600 | \$0 | \$25,600 |
| Design Engineer (Blue Rock) | 160 | \$125 | \$20,000 | \$0 | \$20,000 |
| Contractor (Signum, LLC) | | | \$60,000 | \$45,000 | \$15,000 |
| Software Development | | | | | |
| Project Manager (Blue Rock) | 120 | \$160 | \$19,200 | \$0 | \$19,200 |
| Design Engineer (Blue Rock) | 120 | \$125 | \$15,000 | \$0 | \$15,000 |
| Contractor (Signum, LLC) | | | \$45,000 | \$36,000 | \$9,000 |
| Web Portal | | | | | |
| Project Manager (Blue Rock)* | 200 | \$175 | \$35,000 | \$0 | \$35,000 |
| Contractor (Signum, LLC) | | | \$120,000 | \$100,000 | \$20,000 |
| Testing by METEC | | | | | |
| Project Manager (Blue Rock)* | 120 | \$175 | \$21,000 | \$0 | \$21,000 |
| Contractor (METEC) | | | \$30,000 | \$25,000 | \$5,000 |
| Field Installation- Pilot Project | | | | | |
| Project Manager (Blue Rock) | 60 | \$160 | \$9,600 | \$0 | \$9,600 |
| Design Engineer (Blue Rock) | 60 | \$125 | \$7,500 | \$0 | \$7,500 |
| Producer (Continental Resources) | 60 | \$125 | \$7,500 | \$0 | \$7,500 |
| Follow-up Site Visits - Pilot Project | | | | | |
| Design Engineer (Blue Rock) | 80 | \$125 | \$10,000 | \$0 | \$10,000 |
| Producer (Continental Resources) | 80 | \$125 | \$10,000 | \$0 | \$10,000 |
| Reporting / Documentation | | | | | |
| Project Manager (Blue Rock) | 160 | \$150 | \$24,000 | \$0 | \$24,000 |
| Clerical (Blue Rock) | 40 | \$75 | \$3,000 | \$0 | \$3,000 |
| Materials / Equipment | | | | | |
| | | | \$45,000 | \$30,000 | \$15,000 |
| Travel Expenses | | | | | |
| | | | \$25,000 | \$0 | \$25,000 |
| UL Testing/Listing | | | | | |
| Standard Testing | | | \$60,000 | \$45,000 | \$15,000 |
| Hazardous Location Testing | | | \$60,000 | \$45,000 | \$15,000 |
| Legal Fees (FTO, Patent) | | | | | |
| | | | \$30,000 | \$20,000 | \$10,000 |
| | | Totals | \$876,000 | \$436,000 | \$440,000 |

ATTACHMENT B - FUNDING SOURCE UPDATE

| Funding Source | Current Amount | This Request | Total Amount |
|--------------------------|-----------------------|---------------------|---------------------|
| Blue Rock Solutions | \$316,000 | \$124,000 | \$440,000 |
| ND Industrial Commission | \$266,000 | \$170,000 | \$436,000 |
| TOTAL | \$582,000 | \$294,000 | \$876,000 |



INDUSTRIAL COMMISSION OF NORTH DAKOTA

Doug Burgum
Governor

Drew H. Wrigley
Attorney General

Doug Goehring
Agriculture Commissioner

Memorandum

TO: Oil and Gas Research Council

FR: Reice Haase, NDIC Deputy Executive Director

DT: December 15, 2023

RE: Clean Natural Gas Capture and Emissions Reduction Program and Oil and Gas Research Council Policy Updates

During the 2023 Legislative Session, SB 2089 created the Clean Natural Gas Capture and Emissions Reduction Program, replacing a tax incentive program with a grant program to be managed by the Industrial Commission in consultation with the Oil and Gas Research Council. The legislature appropriated \$3 million for the purpose and increased the cap on the Oil and Gas Research Fund to cover the cost.

The bill grants the Industrial Commission “all the powers necessary and appropriate to effectuate the provisions of this section”, including “in matters of policy affecting the administration of the clean natural gas capture and emissions reduction program”.

I recommend the adoption of the following policies to implement the program:

- Projects must meet eligibility criteria set forth in NDCC 54-17.6-06.1
- Entities interested in the incentive shall submit an application to the Oil and Gas Research Council, which shall review and make recommendations to the Commission for funding
- Incentive funding is released to the approved applicants only after the submittal of reports and documentation of expenses
- Reports must include, at a minimum:
 - A summary of the work performed, including photos of installed equipment
 - Locations of installed equipment
 - Rates and volume of gas captured
- Incentive funding must be matched according to Oil and Gas Research Council Policy 3.02
- Only actual project costs incurred between December 18th, 2023 and June 30th, 2025 are eligible for 2023-2025 biennium funding

Additionally, I recommend updates to the Oil and Gas Research Council Policies to reflect the Office of the Industrial Commission’s shift toward digital applications and reports. Proposed updates are attached to this memo.

Attachments:

Attachment IV.1 – Proposed updates to North Dakota Industrial Commission Oil and Gas Research Council Policies

Attachment IV.2 – 68th Legislative Assembly Enrolled Senate Bill 2089

North Dakota Industrial Commission Oil and Gas Research Council Policies

Table of Contents:

- OGRC – 1 General Provisions
- OGRC – 2 Eligibility
- OGRC – 3 Maximum Grant Amount and Matching Fund Requirement
- OGRC – 4 Application Requirements
- OGRC – 5 Review and Award Contracts and Contract Terms
- OGRC – 6 Public Information – Patent and New Technologies Policies

OGRC – 01 GENERAL PROVISIONS

- OGRC – 1.01 History – Administration
- OGRC – 1.02 Definitions
- OGRC – 1.03 Costs of Application Preparation
- OGRC – 1.04 Acceptance and Rejection of Applications
- OGRC – 1.05 Reservation of Funds

OGRC – 1.01 History – Administration. Since 2003, the North Dakota Industrial Commission has been authorized to make funds from the Oil and Gas Research Fund available to provide financial assistance for contracts for oil and natural gas education, research, development, and marketing. The Oil and Gas Research Council, established by NDCC 54-17.6-02 (Senate Bill 2311, 2003 Legislative Session), will review and make recommendations to the Commission on all applications for financial assistance under this Program.

OGRC – 1.02 Definitions. As used in these policies:

1. “Applicant” means any person or entity applying to the Commission for a grant from the Oil and Gas Research Fund.
2. “Application” means the written document that is submitted to the Commission by an applicant seeking a grant from the Fund.
3. “Commission” means the North Dakota Industrial Commission or its representative.
4. “Contract” means the signed agreement between the Commission and Grantee which describes the rights and duties of the Commission and Grantee with regard to the Program.
5. “Council” means the Oil and Gas Research Council as appointed by the Governor.
6. “Director” means the Director of the Oil and Gas Research Program appointed by the Commission.
7. “Fund” means the Oil and Gas Research Fund available to the Commission to provide funding for the Program and as authorized in NDCC 57-51.1-07.3.
8. “Grant” means the monetary award made by the Commission under the Program.
9. “Grantee” means a successful applicant for a grant from the Fund.
10. “Indirect Costs” means administrative and facilities costs not directly related to the costs of the project. If Indirect Costs are provided as match funding, documentation must be provided verifying the value of the Indirect Costs.

11. "In-Kind Services" means contributed equipment, materials, personnel or services directly provided for the project. If In-Kind Services are provided as match funding, documentation must be provided verifying the value of the In-Kind Services.
12. "Program" means the Program administered by the Commission to demonstrate to the general public the importance of the state oil and gas exploration and production industry, to encourage and promote the wise and efficient use of energy, to promote environmentally sound exploration and production methods and technologies, to develop the state's oil and gas resources, and to support research and educational activities concerning the oil and natural gas exploration and production industry.
13. "Technical Advisor" means the technical experts retained by the Commission to advise the Oil and Gas Research Program Director, Council and Commission .
14. "Technical Reviewers" mean independent technical reviewers selected by the Director and the Commission to review the merits of applications.

OGRC – 1.03 Costs of application preparation. The Commission is not liable for any cost, including costs of preparation of applications, incurred by applicants prior to issuance of a contract. The Commission will be liable only for those costs and expenses expressly identified by contract.

OGRC – 1.04 Acceptance and rejection of applications. These policies do not commit the Commission to award funds. The Commission reserves the right to accept or reject any or all applications received as a result of the Program and to negotiate with any and all qualified applicants. If an applicant has previously received funding from the Commission and is delinquent in reporting, the new application will not be eligible for consideration until such time as the reporting on the prior project have been brought current. An application must have received a favorable Oil and Gas Research Council recommendation prior to consideration by the Commission.

OGRC – 1.05 Reservation of funds. The Commission is not obligated to award the total amount of funds made available under this Program. Funds not awarded will be reserved for future grants under the Program.

OGRC – 02 ELIGIBILITY

OGRC – 2.01 Eligible Applicants

OGRC – 2.02 Eligible and Ineligible Projects

OGRC – 2.01 Eligible applicants. Any person, corporation, partnership, cooperative, or association, or consortium of such parties, may apply for funds under this Program. With regard to site-specific feasibility studies, only owners of facilities, sponsors of projects or operators having effective control of a facility or project may apply. Applicants who do not own or control or have the clear and firm commitment of ownership or control are ineligible for feasibility study assistance. Any interested person in doubt as to eligibility should contact the Commission.

OGRC – 2.02 Eligible and ineligible projects. Any project proposing education, research, development, or marketing of oil and gas natural resources or research related to issues affecting exploration, production, transportation, processing or refining is eligible for a

contract under this Program. The following are examples, in no particular order, of eligible projects.

- Generate information and knowledge that will have the highest probability of bringing new oil and gas companies and industry investment to North Dakota.
- Have the highest potential for creating new oil and gas jobs, wealth, and tax revenues for North Dakota.
- Most effectively educate the general public about the benefits and opportunities provided by the North Dakota oil and gas industry.
- Positively effect ultimate recovery from North Dakota's existing oil and gas pools.
- Preserve existing jobs and production levels.
- Identify oil and gas exploration and production technologies presently not used in North Dakota.
- Identify oil and gas potential in non-producing counties.
- Maximize the market potential for oil, natural gas, and the associated byproducts produced therewith
- Improve the overall suitability of the oil and gas energy industry in North Dakota through the development of new environmental practices that will help to reduce the footprint of oil and gas activities
- Develop baseline information that will lead to other projects, processes, ideas, and activities.

The following activities or uses are ineligible for funding under this Program:

- a. Business startup capital.
- b. Business working capital.
- c. Business advertising or promotional expenses pertaining to a specific company or entity.

OGRC – 3 MAXIMUM GRANT AMOUNT AND MATCHING FUND REQUIREMENT

OGRC – 3.01 Maximum Grant Amount

OGRC – 3.02 Matching Funds

OGRC – 3.01 Maximum grant amount. Grants may be of any amount within the limits of legislation appropriation.

OGRC – 3.02 Matching funds. A grant may not exceed fifty percent of the total project cost. Commission funding must be matched with industry or other sources (e.g., various federal government agencies) of cash, or In-Kind Services or Indirect Costs. The value of In-Kind services and Indirect Costs match funding must be verified with appropriate documentation. Documentation demonstrating the matching funds, including letters of commitment from other funding sources, must be submitted to the Commission within sixty days of the approval of an application by the Commission, or within any additional time granted by the Commission and Director. The Commission's approval is contingent upon receiving this documentation. If it is not received, the approval lapses and no grant may be made. In-Kind services and Indirect Costs may be used by any applicant to supply the required funding match or contribution. A higher priority will be given to those applications having private industry investment equal to at least 50% or more of total cost.

OGRC – 4 APPLICATION REQUIREMENTS

OGRC – 4.01 Application Format

OGRC – 4.02 Application Deadline

OGRC – 4.03 Application Contribution

OGRC – 4.01 Application format. An application must be direct, concise, and informative. The application form to be completed is available on the Commission’s website ~~or can be obtained from the Industrial Commission at the address noted below at ndic.nd.gov~~. It must be accompanied with the application contribution of \$100. It must be typed and double spaced on eight and one-half-inch by eleven-inch paper. Each page shall be numbered and the application shall not exceed 15 pages in length (including the transmittal letter). A copy of the application should be submitted electronically to ndicgrants@nd.gov, ~~kfine@nd.gov~~ and two paper copies of the application are to be submitted to the following address:

~~North Dakota Industrial Commission
ATTN: Oil and Gas Research Program
State Capitol—Fourteenth Floor
600 East Boulevard~~

~~Bismarek, North Dakota 58505~~

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The application must contain the following as outlined in the application form:

1. Transmittal letter. A transmittal letter setting forth a binding commitment on behalf of the applicant to complete the project as described in the application if the Commission makes the grant requested. The letter must be signed by someone authorized to contract on behalf of the applicant.
2. Title Page. A title page setting forth the project title, applicant, principal investigator, date of application, and amount of the request.
3. Table of contents.
4. Abstract. A one-page abstract of the project stating its objective, expected results, duration, total project cost, and participants.
5. Project description. A detailed description of the project, including its objectives; its methodology; its anticipated results; the facilities, resources, and techniques to be used and their availability and capability; the environmental and economic impacts of the project while it is underway; its ultimate technological and economic impacts; and why the project is needed.
6. Standards of success. The standards by which the success of the project is to be measured and the method to be utilized in measuring success. This should include the value to North Dakota. An explanation of what parts of the public and private sector will likely make use of the project’s results, and when and in what way; of the potential that commercial use will be made of the project’s results; how the project will enhance the education, research, development and marketing of North Dakota’s oil and natural gas resources; how it will preserve existing jobs and create new ones; how it will otherwise satisfy the purposes established in the mission of the Program, and how you will be reporting on the success of this project to the Commission.
7. Background/Qualifications. A summary of prior work related to the project conducted by the applicant and other participants as well as by other organizations. This should

- also include summary of the experience and qualifications pertinent to the project of the applicant, principal investigator, and other participants in the project.
8. Management. A description of how the applicant will manage and oversee the project to ensure it is being carried out on schedule and in a manner that best ensures its objectives will be met, and a description of the evaluation points to be used during the course of the project.
 9. Timetable. A project schedule setting forth the starting and completion dates, dates for completing major project activities, and proposed dates upon which the interim reports will be submitted.
 10. Budget an itemized list of the project's capital costs; direct operating costs, including salaries; and Indirect Costs; and an explanation of which of these costs will be supported by the grant and in what amount. Identification of all other committed and prospective funding sources and the amount of funding from each source, differentiating between cash, Indirect Costs and In-Kind Services. Justification must be provided for operating costs not directly associated to the costs of the project. An explanation why the funding requested is necessary to achieve the project's objectives and, if less funding is available than that requested, whether the project's objectives will be unattainable or delayed. Higher priority will be given to those projects that have matching private industry investment equal to at least 50% or more of total cost. (Note ineligible activities or uses listed under OGRP 2.02.)
 11. Tax liability. An affidavit stating that the applicant does not have an outstanding tax liability owed to the State of North Dakota or any of its political subdivisions.
 12. Confidential information. Any information in the application that is entitled to confidentiality and which the applicant wants to be kept confidential should, if possible, be placed in an appendix to allow for administrative ease in protecting the information from public disclosure while allowing public access to the rest of the application. Such information must be clearly labeled as confidential and the applicant must explain why the information is entitled to confidentiality as described in North Dakota Century Code 54-17.6. Oil and gas well data that is a result of financial support of the Council shall be governed by North Dakota Century Code 38-08-04 (6).
 13. Patents and Rights to Technical Data. Any patents or rights that the applicant wishes to reserve must be identified in the application.
 14. If the applicant is a recipient of funding from the Oil and Gas Research Program, a statement that the applicant is current on all reporting for any ongoing project.
 15. Appendices. Any necessary supporting documentation.

OGRC – 4.02 Application deadline. Applications in a calendar year must be delivered to the Commission or postmarked on or before June 1 and November 1. In addition to these two grant rounds, the Commission may establish additional grant rounds and set application deadlines for those rounds. The applicant may amend its application at any time before the application deadline. After the application deadline, the applicant may amend its application only upon the approval of the Commission.

OGRC – 4.03 Application contribution. All applications, with the exception of applications for the Clean Natural Gas Capture and Emissions Reduction Program, must be accompanied by a one hundred dollars nonrefundable application contribution. Checks or money orders should be made payable to the "Industrial Commission of North Dakota".

OGRC – 05 REVIEW AND AWARD PROCESS

OGRC – 5.01 Application Evaluation – Criteria
OGRC – 5.02 Application Review – Initial Review
OGRC – 5.03 Application Review – Technical Reviewer
OGRC – 5.04 Application Review – Council Recommendation and Commission Decision
OGRC – 5.05 Contracts
OGRC – 5.06 Disbursement of Funds
OGRC – 5.07 Project Duration
OGRC – 5.08 Allocations
OGRC – 5.09 Partially Funded or Delayed Projects
OGRC – 5.10 Contract Modifications
OGRC – 5.11 Reporting Requirements

OGRC – 5.01 Application evaluation – Criteria. All applications will be evaluated according to the criteria set forth in North Dakota Century Code chapter 54-17.6, and the criteria established by the Commission as stated in these policies.

General Criteria. Priority areas of the Program that promote the growth of the oil and gas industry through research and education include, in no particular order, but are not limited to the following:

- Generate information and knowledge that will have the highest probability of bringing new oil and gas companies and industry investment to North Dakota.
- Have the highest potential for preserving and creating oil and gas jobs, wealth, and tax revenues for North Dakota.
- Most effectively educate the general public about the benefits and opportunities provided by the North Dakota oil and gas industry.
- Positively effect ultimate recovery from North Dakota’s existing oil and gas pools.
- Preserve existing production levels.
- Identify oil and gas exploration and production technologies presently not used in North Dakota.
- Identify oil and gas potential in non-producing counties.
- Maximize the market potential for oil, natural gas, and the associated byproducts .
- Improve the overall suitability of the oil and gas energy industry in North Dakota through the development of new environmental practices that will help to reduce the footprint of oil and gas activities
- Develop baseline information that will lead to other projects, processes, ideas, and activities.

The project’s compatibility with the objectives of the Program will be considered, in particular, the following will be evaluated:

- (1) The need for the project;
- (2) The potential use by the oil and gas-related industry of the results to be achieved by the project;
- (3) The timeliness of the project;
- (4) The impact on the oil and gas-related industry;
- (5) The level of funding requested;

- (6) The level of matching funds, with higher priority given to those projects with private industry investment;
- (7) The short-term and long-term benefits to the applicant, oil and gas industry, oil and gas producers, and the counties and state of North Dakota;
- (8) The likelihood that the project will achieve its technical and market goals;
- (9) The scientific soundness and innovation of any proposed technology;
- (10) The financial feasibility of the proposed project; and
- (11) The technical qualifications and expertise of the applicant, the investigators, and the sponsors.

OGRC – 5.02 Application review – Initial review. Upon receipt of an application, the Director and/or the Commission will determine if the application meets eligibility requirements and is complete. During this initial review the Commission or the Director may seek additional information from the applicant regarding the application including, but not limited to, clarification of budget and matching funds, feasibility of the project meeting timelines, confidentiality request, and viability of the project. Any additional information provided during the initial review shall be included as part of the application. The Director and the Commission shall complete this review within thirty days of the application deadline date, though the Commission may extend this time if needed to properly review an application. The Commission and Director may utilize the services of the Technical Advisors for assistance in completing the initial review of the application. If the Commission and Director determine that the application meets eligibility requirements and is complete, the application will be referred to Technical Reviewers selected by the Commission and Director. The Commission and Director may also refer any question it has about completeness and eligibility to the Technical Reviewers and such question may then be a consideration throughout the review process. The Commission may waive the independent technical review process if it determines that funding is not available for the Technical Reviewers or a project is time sensitive.

OGRC – 5.03 Application review – Technical Reviewer.

- (1) Technical Reviewers are selected by the Director and the Commission. Technical Reviewers should possess the expertise and experience necessary to adequately review the application.
- (2) No individual with a direct financial interest in a proposed project may be involved in any way in reviewing the application. If asked to review the application, the individual with the conflict of interest shall immediately inform the Commission or Director of the conflict. Failure to so notify the Commission disqualifies the individual from serving as a Technical Reviewer unless reinstated by the Commission, and the Commission may disqualify the application from being approved during the round of grants within which the conflict occurred.
- (3) The Technical Reviewers shall assess the technical and fiscal merits of the application. Upon completion of its review, the Technical Reviewers shall make their recommendation to the Director, Council and Commission. The Technical Reviewers shall submit their recommendation within sixty days, though the Commission may extend this time if the Technical Reviewers need more time to properly review the application.

- (4) Notification to applicant. The Commission shall promptly notify the applicant of the recommendations made by the Technical Reviewers to the Director, Council and Commission.

OGRC – 5.04 Application review – Council recommendation and Commission decision.

The Council shall consider, but is not bound by, a recommendation of the Technical Reviewers or the Director. The Council shall make a recommendation on each application to the Commission. The Council shall make its recommendation to the Commission within sixty days of its receipt of the Technical Reviewers' recommendations, though the Commission may extend this time if the Council needs to more properly review the application. An application must have received a favorable Oil and Gas Research Council recommendation prior to consideration by the Commission. The Commission shall consider, but is not bound by, the favorable recommendation of the Council.

OGRC – 5.05 Contracts. A grantee must enter into a contract with the Commission and submit any supporting documentation required by the Commission. The application will form an integral part of the contract. The Commission shall provide a proposed contract to grantees within sixty days of Commission approval of the project. The grantee will then have sixty days to execute a contract. If a contract is not executed by the grantee within the sixty days, the award will be canceled unless an extension of time is granted by the Commission. The Commission may include contract provisions that require payback of a portion of the award. Work carried out under a contract is the work of the grantee and not the Commission.

OGRC – 5.06 Disbursements of funds. Funds will be disbursed only after a contract has been executed. All disbursements will be made according to the schedule in the contract. Disbursements may be withheld if the Commission deems the grantee has not complied with these policies or the contract.

OGRC – 5.07 Project duration. The project must be completed within the time specified in the contract. If the project cannot be completed within the time specified in the contract, the grantee may make a written request to the Commission for an extension of up to one year. The request must set forth the specific additional time requested and the reasons why an extension is needed. Upon receipt of the request, the Commission shall, in consultation with the Director, decide whether or not to grant the request. Additional extensions may be sought under the same procedure described above, but may only be granted if the grantee proves that factors beyond the grantee's control are the cause of its inability to complete the project on time and that since receiving the first extension the grantee has been diligent in all respects in trying to complete the project on time.

OGRC – 5.08 Allocations. If the work under a contract extends beyond the State's fiscal biennium in which the contract is made, any further disbursements of the grant by the Commission to the grantee cannot be guaranteed and will be made only if sufficient funds are appropriated in the new biennium to satisfy the contract.

OGRC – 5.09 Partially funded or delayed projects. If the Commission grant is less than the amount requested, the applicant may decline the award or proceed with the project as proposed, notwithstanding the reduced award. Failure of a grantee to proceed with the project in a timely manner or comply with contract terms or these rules entitles the Commission to

cancel the grant and contract and to receive from the grantee full reimbursement of all funds the Commission disbursed under the contract.

OGRC – 5.10 Contract modifications. If at any time after entering a contract the grantee desires to change any term of the contract, the grantee shall make a written request to the Commission. The request must set forth the specific change desired and the reasons why the change is needed. Upon receipt of the request, in consultation with the Director the Commission shall review the request. The Commission shall determine if the requested change is substantive. If the requested change is substantive the Commission may use Technical Advisors or Technical Reviewers to analyze the request. After completion of their review and consideration of any recommendation that may be provided by the Council, the Commission shall decide whether or not to grant the request.

OGRC – 5.11 Reporting requirements. A grantee has the following reporting obligations:

- (1) Interim reports. A grantee shall submit to the Commission reports summarizing the project's accomplishments and expenditures to date. The timing of the reports will be specified in the contract. If the Commission is providing funding for a specific aspect of a much larger project, the Commission or Director may request that reporting be made on just that aspect of the project. If a variation or major change is made in a project, it must be clearly identified in an interim report and the Commission and/or Director may require that the applicant submit a request as outlined in 5.10.
- (2) Special reports. If substantial progress on a project occurs earlier than anticipated, the grantee shall immediately submit to the Commission a report explaining the accomplishment.
- (3) Final report. A comprehensive final report must be submitted to the Commission by all grantees within the time specified in the contract. This report must include a single page project summary describing the purpose of the project, the work accomplished, the project's results, and the potential applications of the project. The rest of the report must explain these subjects in detail as well as the total costs of the project, a summary fiscal accounting of the entire project, any plans for developing or putting to commercial use the results of the project, any lessons learned, and, if appropriate, recommendations going forward on how to carry out the goals of the project and whether and in what manner the project met or failed to meet the standards referred to in these policies.

OGRC – 6 PUBLIC INFORMATION – PATENT AND NEW TECHNOLOGIES POLICIES

OGRC – 6.01 Application Ownership

OGRC – 6.02 Rights to Technical Data

OGRC – 6.03 Confidentiality of Oil and Gas Well Information

OGRC – 6.04 Invention Rights, Use for Governmental Purposes

OGRC – 6.05 Patent Rights – Manufacturing in North Dakota

OGRC – 6.06 Waiver of State's Rights

OGRC – 6.01 Application ownership. Information contained in unsuccessful applications will remain the property of the applicant, but the Commission will retain file copies of all applications, findings, and reports. Except with regard to confidential information,

applications are public information and are available to the public upon request and payment of copying charges.

OGRC – 6.02 Rights to technical data. Rights to technical data, including software developed under the terms of a grant, shall remain with the grantee. The grantee may establish claim to copyright subsisting in such technical data first produced in the performance of a grant. The State of North Dakota and its consultants, independent contractors, and suppliers, to the extent such are providing services to the State of North Dakota, shall have a nonexclusive, irrevocable, royalty-free license in such technical data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly by or on behalf of the State of North Dakota. However, such license does not discharge the State’s duty of confidentiality and nondisclosure with regard to the grantee’s confidential information.

OGRC – 6.03 Confidentiality of Oil and Gas Well Information. Oil and gas well data that is a result of financial support of the Council shall be governed by North Dakota Century Code 38-08-04 (6).

OGRC – 6.04 Invention rights, use for governmental purposes. Grantee may retain the principal worldwide rights, whether in patent or otherwise, to any invention made with financial support under this program. The State of North Dakota and its consultants, independent contractors, and suppliers, to the extent such are providing services to the state, shall have a nonexclusive, irrevocable royalty-free right to practice under any patents, patent applications, or other new technology developed under this Program. The intent of this section is to enable state agencies to use new technology products or processes for governmental purposes without having to pay the imputed development costs of the products or processes twice; first in the research and development state under Commission funding and then later in the purchase of the processes or products. The State may not use this provision to enter into the private marketplace through direct manufacture or production of goods and services.

OGRC – 06.05 Patent rights – Manufacturing in North Dakota. Grantee shall utilize commercially reasonable efforts to ensure that North Dakota manufacturers will be offered a nonexclusive, fair market value, royalty-bearing license to use any technology developed with funding from the Oil and Gas Research Program. Unless prohibited by law or conflicting State of North Dakota policy, and as referenced in Section 5.05 the Commission may include a clause within any grant providing that royalties collected from North Dakota manufacturers would be paid to the Commission until the entire amount of funding supplied by the Commission was returned in full.

OGRC – 6.06 Waiver of State’s Rights. The Commission may waive the State’s royalty-free right if any other nonfederal governmental entity, state, or foreign provides matching funds and imposes conditions that do or may conflict with the rights provided for by this section. A waiver may be given only if the following are met:

- (1) The grantee has requested from the other funding source a waiver of its requirements that conflict or may conflict with this section;
 - (2) The other funding source provides at least twenty percent of the project’s funding;
- and

(3) It is unlikely the State would ever seek to use the right given the State under this section.

The Commission waives the State’s royalty-free right if any U.S. federal government entity provides matching funds and imposes conditions that do or may conflict with the right provided for by this section.

OGRC – 7 CLEAN NATURAL GAS CAPTURE AND EMISSIONS REDUCTION PROGRAM POLICIES

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OGRC – 7.01 Eligibility Criteria

OGRC – 7.02 Application Process

OGRC – 7.03 Disbursement of funding

OGRC – 7.04 Match Requirements

OGRC – 7.05 Reporting

OGRC – 7.06 Effective Dates

OGRC – 7.01 Eligibility Criteria. The Clean Natural Gas Capture and Emissions Reduction Program was authorized in 2023 by Senate Bill 2089. The purpose of the program is to replace a tax incentive with an incentive payment for projects which capture or utilize natural gas which would have otherwise been flared. Any eligible entities under OGRC – 2.01 are eligible to apply for funding. Projects must be installed on an oil or gas well site or gathering pipeline facility which collect or utilize over fifty percent of propane and heavier hydrocarbons from an oil and gas well site for beneficial use by:

- a. Compressing or liquefying gas for artificial lift, uses as fuel, or for nonpipelined transport to a processing facility;
- b. Conversion to liquid fuels;
- c. Conversion to electricity for onsite use or supply to the electrical grid;
- d. Conversion to computational power;
- e. Collection of tank vapors for beneficial use or transport to a processing facility;
- f. Temporary gas injection into producing wells in lieu of flaring or shutting in wells; or
- g. Other value-added processes as approved by the Industrial Commission.

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OGRC – 7.02 Application Process. Applicants shall submit applications according to OGRC – 4, except that applicants are not required to submit the application fee. The application will follow the same review and award process as OGRC – 5, except that applications will not include an independent technical review.

OGRC – 7.03 Disbursement of funding. Funding will be disbursed in accordance with OGRC – 5.06, only after receipt and review of reports and documentation of expenses.

OGRC – 7.04 Match Requirements. Funding must meet the matching requirements in OGRC – 3.

OGRC – 7.05 Reporting. Prior to disbursement of funds, applicants shall submit a comprehensive report to the Commission, including, at a minimum:

- a. A summary of the work performed, including photos of installed equipment.
- b. Total costs of the project, including documentation of costs and match.
- c. Locations of installed equipment.

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d. Rates and volume of gas captured,

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OGRC – 7.06 Effective Dates. Only projects with eligible costs incurred between December 18, 2023 and June 30, 2025 are eligible for Clean Natural Gas Capture and Emissions Reduction funding.

Approval dates:

Oil and Gas Research Council – January 8, 2004; Revised November 15, 2005; Revised March 1, 2006, Revised June 26, 2007, Revised September 20, 2007, August 6, 2009
Industrial Commission of North Dakota - January 22, 2004; Revised November 22, 2005; Revised March 3, 2006, Revised August 1, 2007, Revised October 17, 2007, Revised September 10, 2009

**Sixty-eighth Legislative Assembly of North Dakota
In Regular Session Commencing Tuesday, January 3, 2023**

SENATE BILL NO. 2089
(Finance and Taxation Committee)
(At the request of the Department of Mineral Resources)

AN ACT to create and enact section 54-17.6-06.1 of the North Dakota Century Code, relating to clean natural gas capture and emissions reduction; and to designate funding from the oil and gas research fund.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. Section 54-17.6-06.1 of the North Dakota Century Code is created and enacted as follows:

54-17.6-06.1. Clean natural gas capture and emissions reduction program.

1. The clean natural gas capture and emissions reduction program shall provide an incentive for natural gas capture and utilization systems on an oil or gas well site or gathering pipeline facility which collect or utilizes over fifty percent of propane and heavier hydrocarbons from an oil and gas well site for beneficial use by:
 - a. Compressing or liquefying gas for artificial lift, uses as fuel, or for nonpipeline transport to a processing facility;
 - b. Conversion to liquid fuels;
 - c. Conversion to electricity for onsite use or supply to the electrical grid;
 - d. Conversion to computational power;
 - e. Collection of tank vapors for beneficial use or transport to a processing facility;
 - f. Temporary gas injection into producing wells in lieu of flaring or shutting in wells; or
 - g. Other value-added processes as approved by the industrial commission.
2. The commission is granted all the powers necessary and appropriate to effectuate the provisions of this section.
3. The commission:
 - a. May make grants or loans or provide other forms of financial assistance as necessary or appropriate to qualified entities for activities under subsection 1;
 - b. Shall keep accurate records of all financial transactions performed under this section;
 - c. May accept donations, grants, federal funds, contributions, and gifts from any public or private source and deposit such in the oil and gas research fund;
 - d. May make and explore orders, rules, and policies necessary to effectuate the purpose of this section; and
 - e. Shall consult with the council in matters of policy affecting the administration of the clean natural gas capture and emissions reduction program.

SECTION 2. OIL AND GAS RESEARCH FUND - CLEAN NATURAL GAS CAPTURE AND EMISSIONS REDUCTION PROGRAM - ONE-TIME FUNDING. Pursuant to the continuing appropriation under section 57-51.1-07.3, the industrial commission shall use up to \$3,000,000 from the oil and gas research fund for the clean natural gas capture and emissions reduction program under section 54-17.6-06.1 for the biennium beginning July 1, 2023, and ending June 30, 2025. The designation under this section is considered a one-time funding item.

President of the Senate

Speaker of the House

Secretary of the Senate

Chief Clerk of the House

This certifies that the within bill originated in the Senate of the Sixty-eighth Legislative Assembly of North Dakota and is known on the records of that body as Senate Bill No. 2089.

Senate Vote: Yeas 45 Nays 2 Absent 0

House Vote: Yeas 91 Nays 1 Absent 2

Secretary of the Senate

Received by the Governor at _____ M. on _____, 2023.

Approved at _____ M. on _____, 2023.

Governor

Filed in this office this _____ day of _____, 2023,

at _____ o'clock _____ M.

Secretary of State

GEOLOGICAL SURVEY QUARTERLY REPORT

*July 1, 2023 to September 30, 2023
to the*

NORTH DAKOTA INDUSTRIAL COMMISSION

Edward C. Murphy
State Geologist
Geological Survey
Department of Mineral Resources
North Dakota Industrial Commission

December 18, 2023

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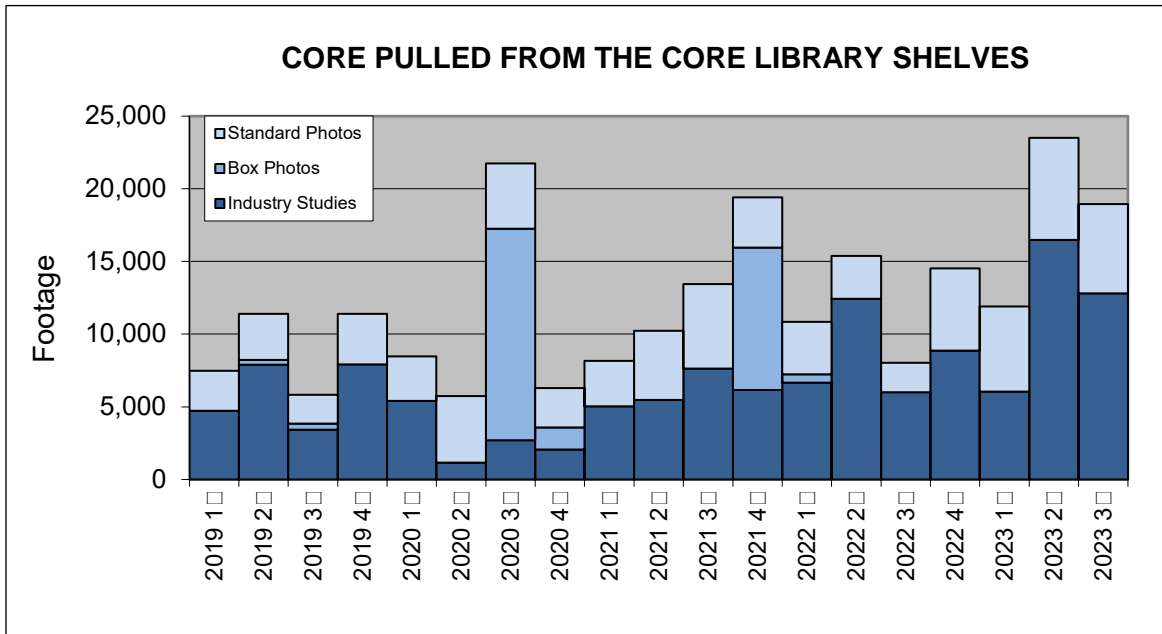
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Wilson M. Laird Core and Sample Library

During the third quarter of 2023, geologists and engineers from the Department of Mineral Resources and EERC as well as University of North Dakota students and professors studied 12,800 feet of core. A total of 6,154 feet of core was photographed generating 9,108 standard photographs for the subscription site.



Workers pulled 18,954 feet of core from library shelves during the third quarter of 2023.

UND Geology and Geological Engineering Graduate Students

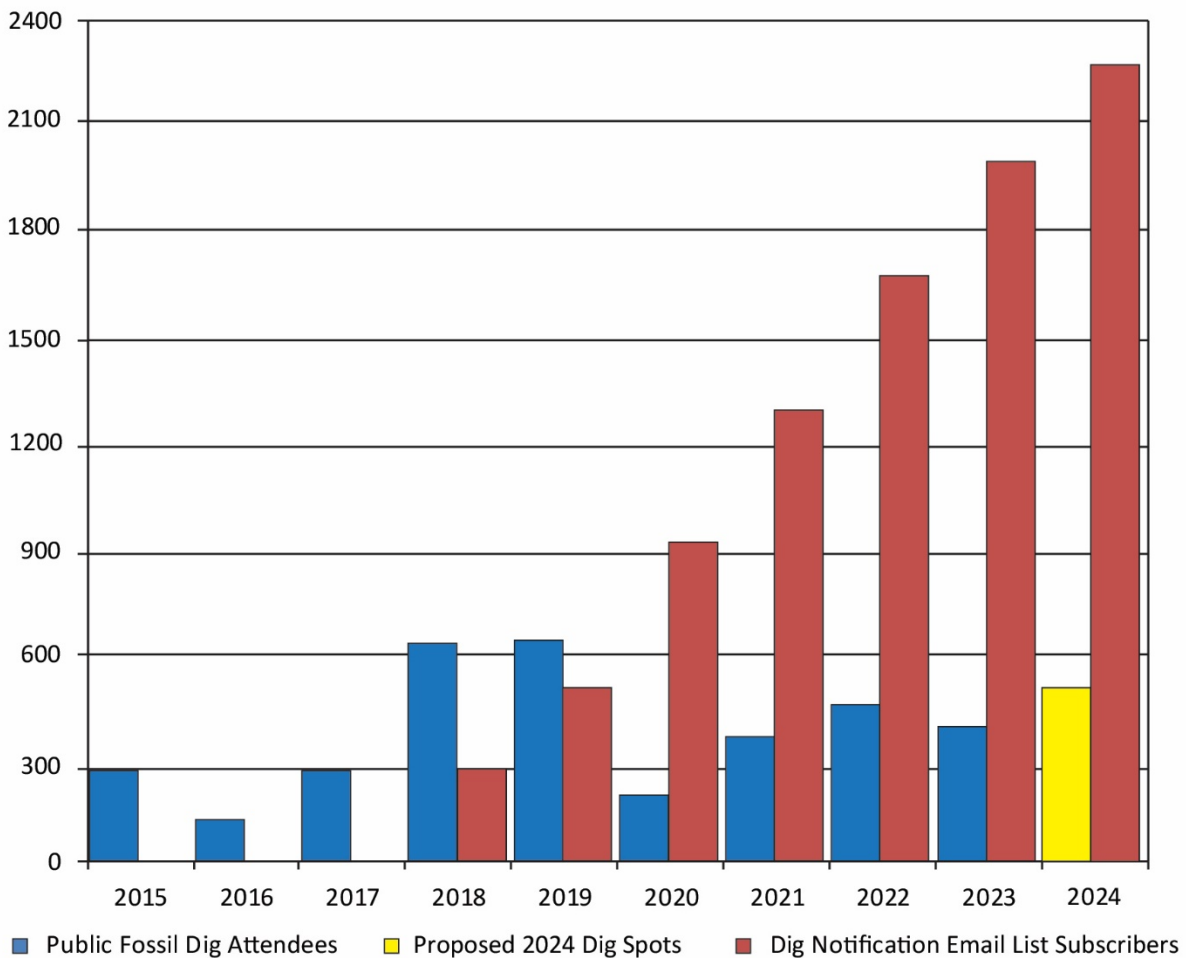
University of North Dakota Geology and Geological Engineering Department Chair Sven Egenhoff currently has three graduate students studying core in the core library as part of their Master's or PhD degree programs. This is the largest number of graduate students studying core in that department since 2015. Sven is working on expanding those numbers and has two more graduate students scheduled to start next semester.



UND Geology and Geological Engineering Chair Sven Egenhoff pointing out a sedimentary feature in a core of the Duperow Formation to one of his graduate students (Doina Irofti) in one of the labs in the core library.

Public Fossil Digs Wrap-up

The 2023 Public Fossil Digs experienced another year of increasing public interest and successful fieldwork. Early in the season it was quite wet, so the final numbers are a little lower than we had hoped as a result of eight rain days. We didn't make a lot of progress at our Medora dig site given the rain, but we did manage to fit in all of the family days at that site. At our Bismarck dig we continued to uncover dozens of dinosaur bones, including a couple nice *Tyrannosaurus rex* teeth. We returned to our fossil mammal site south of Dickinson after taking a break for several years to let the fossils refresh. We found many newly exposed fossils, including a nearly complete skeleton of a 32-million-year-old frog. At our Pembina Gorge dig site, we completed the large field jacket that contains a full skeleton of an eight-foot-long specimen of the fish *Ichthyodectes*. That jacket, which weighs several thousand pounds, remains in the field and we hope to remove it early in the spring after the snow is gone. We also recovered a pair of foot bones from the large, flightless, diving bird *Hesperornis* at the Pembina Gorge Site. Looking ahead to 2024, we are planning to continue work at these four dig sites, providing a total of 520 dig spots. There are currently 2,297 people signed up for our 2024 dig notification announcements email list, which continues to grow every year.





Bismarck Dig



Tyrannosaurus rex tooth – Bismarck Dig



Hesperornis Foot Bones – Pembina Dig



Frog Skeleton – Dickinson Dig



Ichthyodectes Field Jacket – Pembina Dig

Freedom Mine Mammoth

In late May, the NDGS Paleontology Program and the State Historic Preservation Office were notified about the unexpected discovery of bones at the Freedom Mine north of Beulah, North Dakota, including a nearly complete, well-preserved mammoth tusk. The site was visited by staff from both of those offices and the BLM on May 31st and was cleared of any cultural remains that day. The BLM deferred to our paleontology staff to ensure all fossils at the site were properly documented and collected before the area was cleared for work by the mine. Our staff spent a total of 12 days (422.5 total staff hours) at the mine working to recover all fossils from the site in a timely and safe manner. The work was successfully completed on time, preventing any delay to the recovery of coal from the mine. Specimens collected from this ancient stream channel include a partial mammoth skeleton (~20 bones) that is the most complete mammoth specimen yet collected in North Dakota.



Test Excavations at Potential Dinosaur State Park

At the November 2022 NDIC meeting, we discussed a site on state managed lands that the paleontology staff thought could potentially support a State Dinosaur Park. We returned to that site with a group of experienced volunteers for three days in September and conducted a series of test digs. Unfortunately, few fossils were discovered during that work. We plan to conduct additional test digs at this location in 2024 before making a final decision on the potential for a State Dinosaur Park at this location.



Volunteer Excavating a Bench of Rock



Large Piece of Petrified Wood Exposed



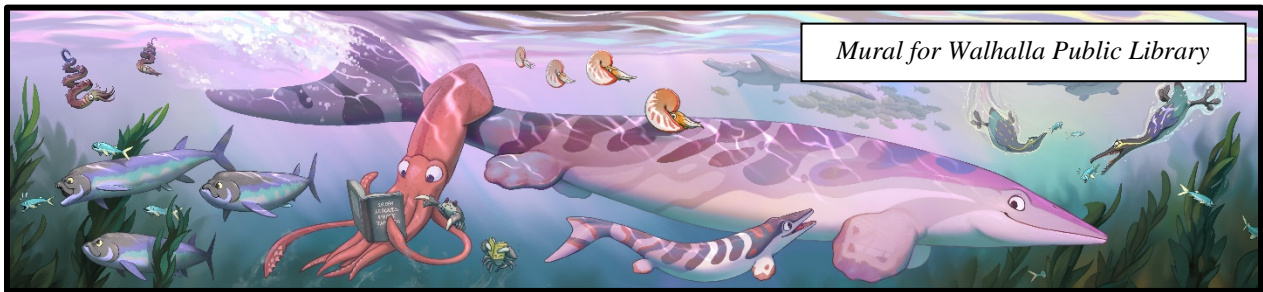
Small Piece of Fossilized Bone



Volunteer Removing Rock Over the Fossil Layer

New Pembina Gorge Mosasaur

The paper describing the new species of mosasaur from the Pembina Gorge State Recreation Area was published on Monday, October 30th. The species was named *Jormungandr walhallaensis* after the nearby town of Walhalla, North Dakota, and the World Serpent Jormungandr from Norse Mythology. The study was led by Amelia Zeitlow, a graduate student at the Richard Gilder Graduate School at the American Museum of Natural History, in partnership with paleontologists at the North Dakota Geological Survey. This partnership was accomplished by 3D scanning all of the fossils so that everyone involved could examine the high-resolution models despite working in different labs across the county. In partnership with an outside company (Triebold Paleontology Inc.), those models were also used to reconstruct the skull of this animal and print casts for display. One of those casts was included in a newly installed exhibit in the Walhalla Public Library, along with a beautiful mural depicting the new mosasaur swimming in the Western Interior Seaway that once covered eastern North Dakota.



The New York Times

This Ancient Sea Creature Prowled the Waters Over North Dakota

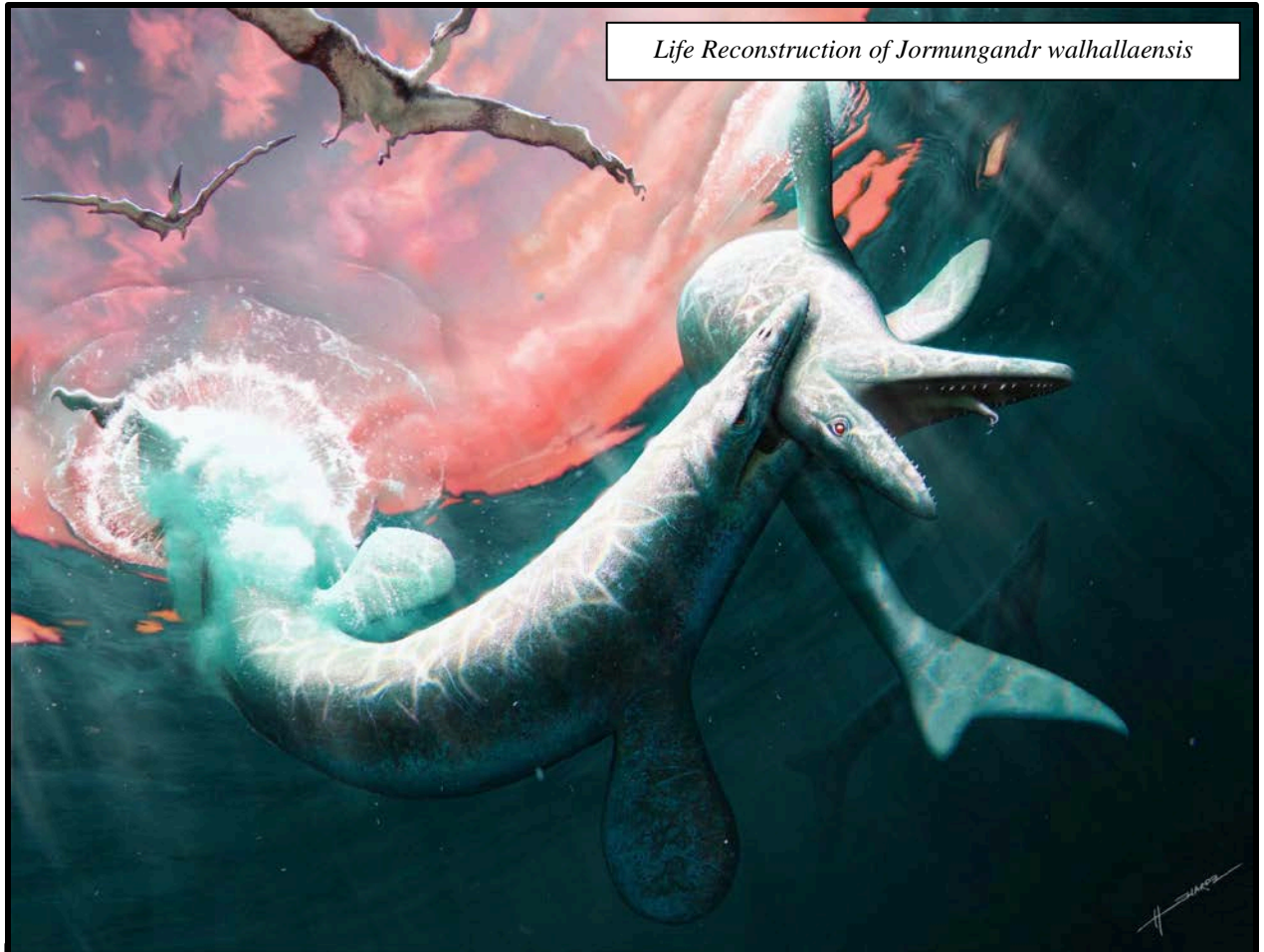
Researchers said they had discovered a new line of mosasaur, a giant sea-dwelling creature that lived alongside the dinosaurs. Its name, *Jormungandr walhallaensis*, draws on Norse mythology.

**POPULAR
SCIENCE**

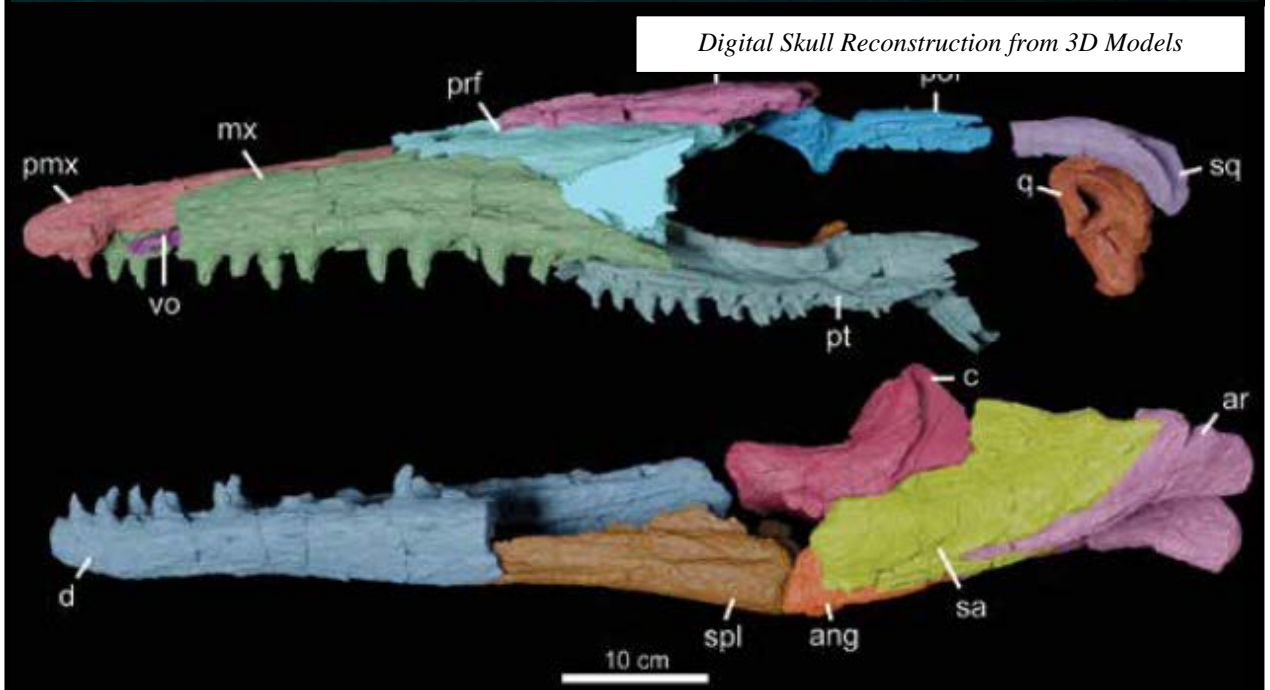
Newfound mosasaur was like a giant Komodo dragon with flippers

***Jormungandr walhallaensis* is named for the Norse creature Jörmungandr who will fight Thor during Ragnarok, aka the end of the world.**

Life Reconstruction of Jormungandr walhallaensis



Digital Skull Reconstruction from 3D Models



Paleontology Offices Water Issues

On June 20th, 2023, water was noted seeping in along the north wall of the paleontology offices in the basement of the North Dakota Heritage Center & State Museum. Leaks in these areas were previously noted in October of 2019, but they stopped before a cause was determined. Slow leaks of water continued along the north wall on and off throughout the summer and into the fall. On August 22nd, Facility Management had the drainage area outside the north wall modified to improve the flow of water away from the building. Inspection of the irrigation system at that time also revealed a leaking pipe, which was repaired. Despite that work, leaks soon reappeared in the offices and have continued. In October, EAPC was contracted to examine the situation and provide recommendations for identifying the underlying problem. Their recommendations were delivered on October 27th and a plan was made to remove a section of the cement slab to inspect the drain tile under the building and locate the source of the water. The floor was cut on November 14th, but water immediately filled the resulting hole and rose to the top surface of the concrete floor. A sump pump was temporarily installed in the hole to prevent flooding, but it frequently clogged. To prevent flooding into the building, the dirt outside the wall was excavated on the weekend of November 18/19, relieving the water pressure that was causing the leaking into the building. That water now drains to a small collection pit and is pumped up to the concrete drainage. A permanent solution is still being discussed.

Office Area Vacated to Explore Leaks



Water Level After Slab Removed



Sump Pump Draining Water



Temporary Sump Pump Setup





UND Hadrosaur Field Jacket in the Core Library



The tables in the northeast corner of Core Lab 3 were rearranged to create space for the hadrosaur field jacket. The preparation of the partial dinosaur skeleton by students and volunteers will take approximately two years.

Regulatory Programs (July 1 to September 30, 2023)

| | |
|----------------------------------|--|
| Coal Exploration Program | 1 permit was issued this quarter. |
| Subsurface Mineral Program | No permits were issued this quarter. |
| UIC Class III Well Program | No permits were issued this quarter. |
| Geothermal Program | 12 permits (6 residential, 6 commercial) were issued this quarter. |
| Paleontological Resource Program | No permits were issued this quarter. |

Publications This Quarter (July 1 to September 30, 2023)

- Anderson, F.J., 2023, Homes on Stilts: Fargo Area Citizens Face Continued Residential Foundation Stability Issues: ND Department of Mineral Resources GeoNews: Vol. 50, No. 2, pp. 10-12
- Anderson, F.J., 2023, Recent Geophysical Research Identifies North Dakota Electrical Transmission Grid at Risk from Potential Geomagnetic Storms: ND Dept. of Mineral Resources GeoNews: Vol. 50, No. 2, pp. 18-19.
- Anderson, F.J., 2023, Offshore Glaciolacustrine Deposits of Glacial Lake Agassiz: The Brenna Formation in Grand Forks County, North Dakota: North Dakota Geological Survey, Geologic Investigations no. 271, 3 plates.
- Maike, C.A., 2023, Areas of Landslides Grace City Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. GrcC - 1.
- Maike, C.A., 2023, Areas of Landslides Binford Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Bnfd - 1.
- Maike, C.A., 2023, Areas of Landslides Cathay SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Cthy SE - 1.

Maike, C.A., 2023, Areas of Landslides Barlow Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Brlw - 1.

Maike, C.A., 2023, Areas of Landslides New Rockford SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. NwRf SE - 1.

Maike, C.A., 2023, Areas of Landslides Black Hammer Hill Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. BkHH - 1.

Maike, C.A., 2023, Areas of Landslides Flora SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Flra SE - 1.

Maike, C.A., 2023, Areas of Landslides Manfred NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mnfd NW - 1.

Maike, C.A., 2023, Areas of Landslides Brantford NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Brnt NE - 1.

Maike, C.A., 2023, Areas of Landslides New Rockford Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. NwRf - 1.

Maike, C.A., 2023, Areas of Landslides New Rockford NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. NwRf NE - 1.

Maike, C.A., 2023, Areas of Landslides Brantford NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Brnt NW - 1.

Maike, C.A., 2023, Areas of Landslides Manfred Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mnfd - 1.

Maike, C.A., 2023, Areas of Landslides Bremen Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Brmn - 1.

Maike, C.A., 2023, Areas of Landslides Munster Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mnst - 1.

Maike, C.A., 2023, Areas of Landslides Brantford Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Brnt - 1.

Maike, C.A., 2023, Areas of Landslides Maddock Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mdck - 1.

Maike, C.A., 2023, Areas of Landslides Flora Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Flra - 1.

Maike, C.A., 2023, Areas of Landslides Selz NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Selz NW - 1.

Maike, C.A., 2023, Areas of Landslides Selz NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Selz NE - 1.

Maike, C.A., 2023, Areas of Landslides Hesper Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hspr - 1.

Maike, C.A., 2023, Areas of Landslides Oberon Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Obrn - 1.

Maike, C.A., 2023, Areas of Landslides Crow Hill Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. CrwH - 1.

Maike, C.A., 2023, Areas of Landslides Fort Totten Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. FtTn - 1.

Maike, C.A., 2023, Areas of Landslides Free Peoples Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. FrPL - 1.

Maike, C.A., 2023, Areas of Landslides Tokio Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Toki - 1.

Maike, C.A., 2023, Areas of Landslides Fessenden West Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Fsdn W - 1.

Maike, C.A., 2023, Areas of Landslides Fessenden East Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Fsdn E - 1.

Maike, C.A., 2023, Areas of Landslides Cathay Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Cthy - 1.

Maike, C.A., 2023, Areas of Landslides Hamar Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hmar - 1.

Maike, C.A., 2023, Areas of Landslides Tokio SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Toki SW - 1.

Maike, C.A., 2023, Areas of Landslides Tolna Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Tlna - 1.

Maike, C.A., 2023, Areas of Landslides Pekin Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Pkin - 1.

Maike, C.A., 2023, Areas of Landslides McVile Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. McVl - 1.

Maike, C.A., 2023, Areas of Landslides McVile SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. McVl SE - 1.

Maike, C.A., 2023, Areas of Landslides Pekin NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Pkin SW - 1.

Maike, C.A., 2023, Areas of Landslides Josephine Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Jsph - 1.

Maike, C.A., 2023, Areas of Landslides Pekin NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Pkin NE - 1.

Maike, C.A., 2023, Areas of Landslides Bitter Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. BtrL - 1.

Maike, C.A., 2023, Areas of Landslides Lambs Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. LmbL - 1.

Maike, C.A., 2023, Areas of Landslides Hamberg Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hmbg - 1.

Maike, C.A., 2023, Areas of Landslides Heimdal Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hmdl - 1.

Maike, C.A., 2023, Areas of Landslides Harvey Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hrvy - 1.

Maike, C.A., 2023, Areas of Landslides Wellsburg Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wlbg - 1.

Maike, C.A., 2023, Areas of Landslides Oberon SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Obrn SW - 1.

Maike, C.A., 2023, Areas of Landslides Sheyenne Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Shyn - 1.

Maike, C.A., 2023, Areas of Landslides Horseshoe Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. HshL - 1.

Maike, C.A., 2023, Areas of Landslides Lake Coe Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. LkCo - 1.

Maike, C.A., 2023, Areas of Landslides Binford NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Bnfd NW - 1.

Maike, C.A., 2023, Areas of Landslides Binford NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Bnfd NE - 1.

Maike, C.A., 2023, Areas of Landslides Kloten NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Kltn NW - 1.

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Maike, C.A., 2023, Areas of Landslides Jessie Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Jsse - 1.

Maike, C.A., 2023, Areas of Landslides Manfred SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mnfd SW - 1.

Maike, C.A., 2023, Areas of Landslides Juanita Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Jnta - 1.

Maike, C.A., 2023, Areas of Landslides Manfred SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mnfd SE - 1.

Maike, C.A., 2023, Areas of Landslides Fessenden SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Fsdn SW - 1.

Maike, C.A., 2023, Areas of Landslides Emrick Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Emrk - 1.

Maike, C.A., 2023, Areas of Landslides McHenry Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. McHn - 1.

- Maike, C.A., 2023, Areas of Landslides Mose Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mose - 1.
- Maike, C.A., 2023, Areas of Landslides Kloten SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Kltn SE - 1.
- Maike, C.A., 2023, Areas of Landslides Warwick Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wrwk - 1.
- Maike, C.A., 2023, Areas of Landslides Devils Lake Mtn Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. DvLM - 1.
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- Nesheim, T.O., 2023, Middle Three Forks Development in the Bakken-Three Forks Petroleum System, Rate Acceleration or Resource Addition?: A Case Study in Tight Oil Reservoir Development: North Dakota Geological Survey, Report of Investigation no. 135, 50 p.
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- York, B.C. and Anderson, F.J., 2023, Areas of Landslides Edinburg Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Ednb - 1.
- York, B.C. and Anderson, F.J., 2023, Areas of Landslides Lankin Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Lnkn - 1.
- York, B.C. and Anderson, F.J., 2023, Areas of Landslides Northwood Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nrwd - 1.
- York, B.C. and Anderson, F.J., 2023, Areas of Landslides Northwood SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nrwd SE - 1.
- York, B.C. and Anderson, F.J., 2023, Areas of Landslides Hatton SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. HttN SW - 1.
- York, B.C. and Anderson, F.J., 2023, Areas of Landslides Mayville North Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Myvl N - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Park River Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. PrkR - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Nash Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nash - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Grafton Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Grft - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Oakwood Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Okwd - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Pisek Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Psek - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Voss Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Voss - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Minto Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mnto - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Pleasant Valley Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. PlsV - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Veseleyville Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Vslv - 1.
- York, B.C. and Maike, C.A., 2023, Areas of Landslides Dahlen Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Dhln - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Inkster Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Inks - 1.

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York, B.C. and Maike, C.A., 2023, Areas of Landslides Inkster NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Inks NE - 1.

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York, B.C. and Maike, C.A., 2023, Areas of Landslides Mekinock Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mknk - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Fordville SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Frdv SE - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Inkster SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Inks SE - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Gilby Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Glby - 1.

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York, B.C. and Maike, C.A., 2023, Areas of Landslides Forest River Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. FrsR - 1.

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York, B.C. and Maike, C.A., 2023, Areas of Landslides Niagara SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Ngra SW - 1.

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York, B.C. and Maike, C.A., 2023, Areas of Landslides Kempton Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Kmpt - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Emerado SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Emrd SW - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Emerado SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Emrd SE - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Grand Forks SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. GrFk SW - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Lake Pickard Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. LkPk - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Niagara Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Ngra - 1.

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York, B.C. and Maike, C.A., 2023, Areas of Landslides Emerado Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Emrd - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Kelly Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Killy - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Aneta Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Anta - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Finley NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Fnly NE - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Northwood NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nrwd NW - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Holmes Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hlms - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Buxton NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Bxtn NW - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Reynolds Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Rynl - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Sharon Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Shrn - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Finley Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Fnly - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Golden Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. GldL - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Buxton SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Bxtn SW - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Buxton Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Bxtn - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Larimore West Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Lrmr W - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Larimore East Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Lrmr E - 1.

York, B.C. and Maike, C.A., 2023, Areas of Landslides Hatton Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. HttN - 1.

Presentations This Quarter (July 1 to September 30, 2023)

B. Barnes, J. Person, Tour of public fossil dig, Dale Rebenitsch Family, July 27.

T. Nesheim, Examination of Middle Three Forks Co-Development on Upper Three Forks Well Performance in North-Central McKenzie County, Western North Dakota, IMAGE (AAPG-SEG Annual Meeting), Houston, Tx, August 29.

J. Person, Lab and Collections tour, Heritage Center Archives Dept. summer interns, Heritage Center, August 14.

J. Person, Lab and Collections tour, Freedom Mine employees, Heritage Center, August 15.

J. Person, Radio interview regarding summer public digs with Don Haney (KFGO News Fargo), August 15.

J. Person, Lab and Collections tour, VIP group from Florida, Heritage Center August 22.

J. Person, Lab and Collections tour, New DMR employees, Heritage Center, August 23.

L. Moxness, ND Geological Survey Responsibilities and Resources, NDSU Geology Fieldtrip Class, Heritage Center, September 9.

J. Person, How to Become a Paleontologist, KFYZ TV interview with Bella Kraft, Heritage Center, September 15.

Docket for Hearing
Wednesday, September 27, 2023
N.D. Oil & Gas Division N.D. Oil & Gas Division 1000 East Calgary Avenue

Case No. 30204, Order No. 32814: Application of Hess Bakken Investments II, LLC for an order amending the applicable orders for the Ellsworth-Bakken Pool to establish an overlapping 3200-acre spacing unit described as the E/2 of Sections 10 and 15 and All of Sections 11, 12, 13 and 14, T.149N., R.100W., McKenzie County, ND, and authorize one horizontal well to be drilled on such unit, or granting such other relief as may be appropriate.

Case No. 30264, Order No. 32874: North Dakota Industrial Commission, Complainant, v. Freedom Energy Operating LLC Administrative Complaint

Docket for Hearing
Wednesday, September 27, 2023
N.D. Oil & Gas Division N.D. Oil & Gas Division 1000 East Calgary Avenue

Case No. 30334, Order No. 32946: Application of Foundation Energy Management, LLC for an order allowing the 20002 FV-P Agate "B" #1 well (File No. 15047) on a 640-acre spacing unit in the Bicentennial-Birdbear Pool described as Section 34, T.144N., R.103W., Golden Valley County, ND, to be recompleted with the curve build section open hole through the Bakken Pool as an exception to Commission Order Nos. 29703 and 32389, or granting such other relief as may be appropriate.

Docket for Hearing
Wednesday, September 27, 2023
N.D. Oil & Gas Division N.D. Oil & Gas Division 1000 East Calgary Avenue

Case No. 30335, Order No. 32947: Application of Foundation Energy Management, LLC for an order allowing the 9210 JV-P Barkland #2H well (File No. 15762) on a 640-acre spacing unit in the Beaver Creek-Birdbear Pool described as the E/2 of Section 36, T143N., R.103W. and the E/2 of Section 1, T.142N., R.103W., Golden Valley County, ND, to be recompleted with the curve build section open hole through the Bakken Pool as an exception to Commission Order Nos. 29703 and 32390, or granting such other relief as may be appropriate.

Docket for Hearing
Wednesday, September 27, 2023
N.D. Oil & Gas Division N.D. Oil & Gas Division 1000 East Calgary Avenue

Case No. 30336, Order No. 32948: Application of Phoenix Operating LLC for an order amending the applicable orders for the Green Lake-Bakken Pool to establish a 1920-acre spacing unit described as Section 3, 10 and 15 T.159N., R.100W., Williams County, ND, and to authorize 5 horizontal wells to be drilled on such unit and granting such other relief as may be appropriate.



**INDUSTRIAL COMMISSION
OF NORTH DAKOTA**

TENTATIVE Schedule for Oil & Gas Hearings 2024
Bismarck, North Dakota
DMR Conference Room
1000 East Calgary Ave

| <u>Hearing Date</u> | <u>Docket Closing Date</u> |
|--|----------------------------|
| January 17, 2024 January 18, 2024 | December 14, 2023 |
| February 21, 2024 February 22, 2024 | January 18, 2024 |
| March 20, 2024 March 21, 2024 | February 22, 2024 |
| April 24, 2024 April 25, 2024 | March 21, 2024 |
| May 29, 2024 May 30, 2024 | April 25, 2024 |
| June 19, 2024 June 20, 2024 | May 16, 2024 |
| July 24, 2024 July 25, 2024 | June 20, 2024 |
| August 28, 2024 August 29, 2024 | July 25, 2024 |
| September 25, 2024 September 26, 2024 | August 22, 2024 |
| October 30, 2024 October 31, 2024 | September 26, 2024 |
| November 20, 2024 November 21, 2024 | October 17, 2024 |
| December 18, 2024 December 19, 2024 | November 14, 2024 |
| January 22, 2025 January 23, 2025 | December 19, 2024 |

Transmission Capacity Study Update

Introduction

The North Dakota Transmission Authority (NDTA) engaged Power System Engineering, Inc. (PSE) to help provide some insight into the current and expected future capacity of the transmission system in North Dakota. In this first phase of the assessment, PSE has performed Generator Interconnection Queue and Transmission Expansion Plan Reviews in order to shed some light on upcoming generation additions and transmission system upgrades. Observations and Conclusions drawn from these reviews will help shape the transmission analysis to be performed in Phase 2 of the study.

Generation Interconnection Queue Review

Any new generation planned to interconnect to the transmission system in North Dakota will be studied under the MISO, SPP, or MPC Generation Interconnection (GI) processes. These processes are conceptually similar, but differ in key details. They were all initially based on the FERC pro-forma tariff, but have evolved over time to meet the needs of each organization as they respond to an unprecedented level of new generation interconnection requests.

All three utilize group studies to process interconnection requests received as of a certain date. These studies are coordinated between MISO, SPP, and MPC, as well as other neighboring ISO/RTO/TOs, in order to establish a “queue priority” for each study group. This queue priority is used to allocate network capacity and identify cost responsibility for network upgrades.

As of November 21, 2023, there were 107 projects representing a maximum of 20,083.8 MW in ND generation in the MISO, SPP, and MPC GI queues. Of these, 38 (4,116.4 MW Summer, 4,140.4 MW Winter) projects are in service; 9 (1,624.15 MW) projects are under construction or proceeding towards construction; and 60 (14,319.24 MW maximum) projects are under study in the respective GI process. These projects are summarized below:

- MISO
 - 55 projects in total (8,954.5 MW Summer, 9,075.8 MW Winter), including:
 - 26 In-Service (1,981.5 MW Summer, 2,005.5 MW Winter) projects
 - 1 Under Construction (250 MW) project
 - 28 Active (6,723 MW Summer, 6,820.3 MW Winter) projects in the following study groups:
 - DPP-2020 West – 1 project (200 MW)
 - DPP-2021 West – 12 projects (2,400 MW)
 - DPP-2022 West – 15 projects (4,123 MW Summer, 4,220.3 MW Winter)
- SPP
 - 37 projects in total (7,902.29 MW Capacity, 7,652.29 MW Net), including:
 - 3 In-Service (652 MW) projects
 - 7 projects (1,204.15 MW) have an executed GIA and is proceeding on schedule
 - 1 project (170 MW) is designated as a surplus project

- 26 active projects in the study process (5,876.14 MW Capacity, 5,626.14 Net) as follows:
 - 3 projects (398.1 MW) at the Facility Study Stage
 - 23 projects (5,478.04 MW Capacity, 5,228.04 MW Net) in the DISIS Stage, including:
 - DISIS-2018-002 – 1 project (255 MW) – estimated to start August 2021
 - DISIS-2019-001 – 1 project (150 MW) – estimated to start April 2022
 - DISIS-2020-001 – 4 projects (680 MW)
 - DISIS-2021-001 – 3 projects (1,003.04 MW)
 - DISIS-2022-001 – 3 projects (625 MW Capacity, 375 MW Net)
 - DISIS-2023-001 – 11 projects (2,765 MW)
- MPC
 - 15 projects in total (3,105.7 MW), including:
 - 9 In-Service (1,482.9 MW) projects
 - 6 Active (1,622.8 MW) projects in the study process, including:
 - 3 projects (701.2 MW) – currently under Facility Study
 - 1 project (457.3 MW) – currently under System Impact Study
 - 2 projects (464.3 MW) – awaiting study

Many of these in-service projects have been in-service for years, with some dating back to the early 2000’s. For the purpose of this review, we will assume that the older projects are included in the study models. We will verify that the more recent projects which are identified as going in-service within the last 3 years are included in the study models as part of our review. In addition, we recommend discussing the remaining MISO, SPP, and MPC projects in Active Study Cycles to develop assumptions around how much Active Queue generation should be added to the study models during the Phase 2 transmission analysis.

The GI study process is designed to identify any system upgrades required for the Bulk Electric System (BES) to operate safely and reliably with these proposed new generation projects interconnected. Any upgrades to the transmission system in North Dakota required for generation interconnection projects would be added to future versions of the applicable Transmission Expansion Plan.

The details of these projects are included in the *TEP and Queue Review* workbook provided with this summary.

Transmission Expansion Plan Review

PSE has completed reviews of the DOE IJA First Round Selections, MISO Transmission Expansion Plans (MTEP) Projects Under Evaluation list, MTEP Appendix A Status Report, the SPP 2023 Q3 Project Tracking Appendix 1, and the MISO-SPP Joint Targeted Interconnection Queue (JTIQ) Portfolio to identify local transmission projects that could impact power flows in North Dakota.

On October 30, 2023, the DOE Grid Deployment Office selected three¹ transmission projects to continue through the program; none of which are located in or near North Dakota.

The MTEP Projects Under Evaluation list includes 18 MTEP23 or MTEP 24 Appendix A or B projects located in North Dakota. A majority of these projects upgrade the network to accommodate new load or generation. It

¹ DOE First Round Selections, <https://www.energy.gov/gdo/transmission-facilitation-program-first-round-selections>

is expected that the estimated \$85.5M network upgrades will only accommodate the new load or generation and not provide any significant increase in capacity for the North Dakota network. Two projects (PID 23877 and 24334) may add capacity by creating a new interconnection between GRE and MP near Square Butte and installing a larger conductor on the Mapleton – Sheyenne 115kV line. The details of these 18 projects are included in the TEP and Queue Review workbook provided with this summary.

The MTEP Appendix A Quarterly Status report (through July 31, 2023) includes 19 Appendix A projects from MTEP18 through MTEP22 located in North Dakota. One² of these projects is in-service, one is under construction, 14 are planned or proposed, two are pre-construction, and one is listed as long lead materials.

In the Phase 2 transmission analysis, we recommend verifying the in-service MTEP projects are included in the study models and having a discussion around including the remaining MTEP projects.

The SPP 2023 Q2 Project Tracking Portfolio includes 14 projects located in North Dakota. Of these, two projects are in service or complete³, four are on schedule, and eight are behind schedule with interim mitigation provided. We recommend verifying that the in-service and complete projects are included in the study model and discussing the Regional Reliability type upgrades for the Phase 2 transmission analysis.

The following projects that NDTA is interested in are included in the MISO and SPP TEP as described below:

- BEPC Roundup – Kummer Ridge 345kV
 - SPP PID 92113 Regional Reliability project currently listed as “Delay – Mitigation” with an ISD of 12/31/2025. Per the project website, NTC was received in May of 2022. However, the current SPP project tracking list shows NTC was sent 3/16/23.
- BEPC Leland Olds – Tioga 345kV
 - SPP PID 92168 Tande – Finstad – Leland Olds 345kV Regional Reliability project is listed as “Delay – Mitigation” with ISD of between 12/1/25 and 12/31/25.
- OTPCO/MDU Jamestown – Ellendale 345kV
 - MISO PID 23368 (MISO Tranche 1 project) ISD 12/31/28. Status and ISD have not changed since approved.
- BEPC/Sask Power Tioga to new location near Boundary Dam
 - SPP PID 92371 North Dakota/Saskatchewan Border (Tableland) – Tande 230kV Transmission Service project is listed as On Schedule < 4 years with an ISD of 10/1/27.
- BEPC/Sask Power Wheelock to new location near Boundary Dam
 - SPP PID 92372 North Dakota/Saskatchewan Border (Tableland) – Wheelock 230kV Transmission Service project is listed as On Schedule < 4 years with an ISD of 10/1/27.
- MPC/Allete Upgrade from Center to Duluth DC line
 - MTEP PID 18058 is structure replacements for the Arrowhead – Center HVDC line. The last structures will be replaced in by 12/31/26. The project description does not mention terminal NU to increase capacity.

² Re-termination of the Heskett – Judson 41.6kV line to the new Mandan 38th St substation is delayed due to construction.

³ One segment of PID 81614 (Northshore - New Town 115 kV Ckt 1) is listed as “Delay – Mitigation” which is defined by SPP as “Behind schedule, interim mitigation provided or project may change but time permits the implementation of project; asterisk (*) indicates interim mitigation plan provided by SPP”

- Grid United DC line from near St Anthony, North Dakota to Colstrip and a tie to Center, North Dakota
 - North Plains Connector “approvals expected in 2025” “could be operational as early as 2029”

In addition to the projects listed above, NDTA may be interested in the JTIQ and MISO Tranche 2 projects listed below. Currently, MISO Tranche 2 is undergoing economic/reliability and benefits analyses. Per the MISO LRTP workshop presentation from October 2, 2023, MISO is targeting PAC and Board approval in the first half of 2024. The DOE and JTIQ Project Partners are currently negotiating the portfolio and the DOE is targeting mid-2024 for FERC and MISO BOD approval.

- JTIQ Bison – Hankinson – Big Stone South 345kV
- MISO Tranche 2 Jamestown – Bison 345kV
- MISO Tranche 2 Bison – Alexandria 345kV

The details of these projects are included in the *TEP and Queue Review* workbook provided with this summary.

Next Steps

Over the next month, PSE is available to discuss these GI and transmission projects and recommendations for the Phase 2 transmission analysis. Please review this Phase 1 summary internally and with interested stakeholders (TOs) and let us know if you would like to setup a few calls to discuss additional projects or suggestions from the interested parties. We would like to schedule a Phase 2 kickoff meeting in January 2024.

TECHNICAL REVIEWERS' RATING SUMMARY

IIJA-01-C

Converting Overhead Crossings to Underground Across Federal & State Highways

Submitted By: Capital Electric Cooperative Inc.

Date of Application: November 2023

Request for \$321,930 Grant

Total Project Costs \$505,890

| Rating Category | Weighting Factor | Technical Reviewer | | | Average Weighted Score |
|-----------------------------|---------------------|--------------------|--------------|--------------|---------------------------|
| | | A1 Rating | A2 Rating | A3 Rating | |
| 1. Objective 1 | 6 | 5 | 4 | 4 | 26 |
| 2. Objective 2 | 6 | 5 | 5 | 4 | 42 |
| 3. Objective 3 | 6 | 4 | 5 | 5 | 42 |
| 4. Level of Risk Mitigation | 9 | 3 | 5 | 3 | 33 |
| 5. Facilities and Equipment | 3 | 4 | 3 | 4 | 11 |
| 6. Budget | 9 | 5 | 3 | 4 | 36 |
| 7. Jobs Created | 3 | 5 | 1 | 3 | 9 |
| 8. Environmental Impacts | 3 | 5 | 3 | 4 | 12 |
| 9. Expertise | 6 | 4 | 5 | 4 | 26 |
| <hr/> | | | | | |
| Total | 255 | 222 | 207 | 198 | 237 |

OVERALL TECHNICALLY SOUND

GOOD (IF > 170)

FAIR (160-170)

QUESTIONABLE (IF < 160)

| Mandatory Requirements | TR1 Yes | No | TR2 Yes | No | TR3 Yes | No |
|--|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| Eligible Entity and Project | | | | | | |
| Applicant and project eligible | x | | x | | x | |
| Research, Technology and Economic Security | | | | | | |
| Applicant demonstrates compliance with Build American/Buy America and provides information related to foreign national participation and ownership | | x | x | | x | |
| National Environmental Policy Act | | | | | | |
| Applicant has provided documentation of NEPA compliance or completed environmental questionnaire requesting a Categorical Exclusion from the NEPA compliance officer | x | | x | | x | |
| Davis-Bacon Act | | | | | | |
| Applicant has demonstrated that all laborers paid by the applicant and subcontractors comply | | x | x | | x | |
| Cost Share | | | | | | |
| Applicant meets the required cost-share of 1/3 of award value | x | | | x | x | |

1. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce magnitude and duration of grid outages. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 5) *Capital has explained very well how this project will improve the resilience of the grid. They have discussed the numerous causes of outages caused by nature and how underground cabling would eliminate risk. They have provided the advantages of underground crossings regarding personnel and public safety as well as improved emergency response time in case of an incident. Capital has discussed the qualifications of their personnel.*

Reviewer TR2 (Rating 4) *Proposal lacked addressing the Objective Metric Criteria: "Number of personnel trained to manage the resilience project once it is finished"*

Reviewer TR3 (Rating 4) *Applicant identifies this goal although does not quantify.*

2. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce frequency and impacts of grid outages: 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 5) *Capital has explained very well how this project will improve the resilience of the grid. They have discussed the numerous causes of outages caused by nature and how underground cabling would eliminate risk. They have provided the advantages of underground crossings regarding personnel and public safety as well as improved emergency response time in case of an incident.*

Reviewer TR2 (Rating 5) *Proposal satisfied all Metric Data*

Reviewer TR3 (Rating 2) *Applicant identifies this goal although does not quantify.*

3. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Provide lower-cost energy access to disadvantaged or underserved communities; 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 4) *Capital has addressed the energy savings that would result by using larger cable. Completion of this project would benefit a disadvantaged community in Kidder County.*

Reviewer TR2 (Rating 5) *Proposal lacked addressing the Objective Metric Criteria of providing “clean energy”*

Reviewer TR3 (Rating 5) *This cooperative provides service to rural locations. The application provides sufficient explanation of providing services to disadvantaged and underserved communities.*

4. Level of risk mitigation: Applicant has provided a cost/benefit analysis demonstrating, based on stated objectives, how their project will reduce the frequency and/or the magnitude and duration of grid outages. 1-No Impact, 2- Small Impact, 3-Likely Impact, 4-Most Likely Impact, 5-Significant Impact

Reviewer TR1 (Rating 3) *Capital has not provided an estimated cost benefit analysis in a monetary sense. They have however, stated the expected improvement in grid outages and the cost savings of not having downed lines crossing the road.*

Reviewer TR2 (Rating 5) *Proposal adequately addressed Risk*

Reviewer TR3 (Rating 3) *Applicant identifies this goal, although does not quantity.*

5. Applicant has demonstrated sufficient resources to complete the project: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *Capital discussed their previous successful projects of this nature. Capital has listed the personnel who would be involved if this grant is awarded to them. They have also mentioned contractors that would be used for underground work. Their personnel appear to have proper tools and experience. Resumes are available.*

Reviewer TR2 (Rating 3) *Proposal adequately addressed Facilities & Equipment Requirements*

Reviewer TR3 (Rating 4) *The applicant provided a construction plan including internal personnel and equipment.*

6. The proposed budget is comprehensive and sufficient relative to the outlined work and the timetable, with higher priority given to applicants who exceed the minimum required cost-share: 1-Not Sufficient, 2-Possibly Sufficient, 3-Likely Sufficient, 4-Most Likely Sufficient, 5-Certainly Sufficient

Reviewer TR1 (Rating 5) *Capital has provided a very detailed explanation of their line-by-line budget for each of the two proposed project phases.*

Reviewer TR2 (Rating 3) *Proposal adequately addressed Phase 1 & Phase 2 Budget and Costs, with consideration of additional “cost pressures” and “10%” management reserve for “unknowns”... additionally, “Capital is willing to provide more of a cost share (up to 50%),” however “Capital strongly encourages NDTA to consider providing 70% of the cost recovery for Capital to fully realize the benefits of the grant, awarding an amount of \$321,930” with Capital assuming a 30% amount of \$137,970 If 1/3 is assumed minimum Cost Share, then 1/3 = mean score of 2.5 And 100% = 5, Therefore 30% = Score of 2.27*

Reviewer TR3 (Rating 4) *Applicant provided a breakdown of project costs.*

7. Applicant has quantified temporary and permanent jobs created as part of the project, with higher priority given to applicants with higher

amounts: 1-Not Achievable, 2- Possibly Achievable, 3- Likely Achievable, 4-Most Likely Achievable, 5-Certainly Achievable.

Reviewer TR1 (Rating 5) *Capital addresses the potential need for four additional contracted workers.*

Reviewer TR2 (Rating 1) *“While Capital does not plan on directly hiring additional staff to support this project, an additional dedicated contractor crew of up to four workers may be hired to complete this scope of work.”*

Reviewer TR3 (Rating 3) *Applicant did not quantify temp and permanent jobs.*

8. Applicant has identified any environmental impacts and demonstrated efforts taken to mitigate those impacts: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 5) *Capital has contracted environmental studies as well as historic property and threatened and endangered species studies. No negative conclusions. Study reports are attached to their proposal. Phase 2 studies will also begin in 2024.*

Reviewer TR2 (Rating 3) *The proposal adequately addresses Environmental Impacts*

Reviewer TR3 (Rating 4) *Applicant provided environmental impact.*

9. The background and experience of the project principals with regards to technical qualifications and competence is: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *Capital has listed the personnel who would be involved if this grant is awarded to them. They have also mentioned contractors that would be used for underground work. Their personnel appear to have proper tools and experience. Resumes are available.*

Reviewer TR2 (Rating 5) *The proposal adequately demonstrated Capital’s expertise in this area*

Reviewer TR3 (Rating 4) *Applicant provided details.*

Section C. Overall Comments and Recommendations:

Please comment in a general way about the merits and flaws of the proposed project and make a recommendation whether or not the project is technically sound.

Reviewer TR1: *Capital has proposed a very feasible and workable project and have performed similar projects in the past. They appear to have done their due diligence and have included appropriate reports.*

Capital has received a letter of support from NDTA, stating the willingness to coordinate their project within the NDDOT right-of-way. They have provided very detailed maps of the project.

Capital could have been more diligent regarding the Mandatory Requirements.

Reviewer TR2 *This proposal does satisfy Objective or Metric requirements and is technically feasible.*

Reviewer TR3 *Applicant provided a well written explanation of the project and how they meet the requirements.*

North Dakota Transmission
Authority

North Dakota Industrial Commission

BIL 40101(d) Application

Project Title: Converting Overhead Crossings to Underground Across Federal and State Highways

Applicant: Capital Electric Cooperative

Date of Application: 11/17/2023

Amount of Grant Request:

Phase 1: \$104,020

Phase 2: \$217,910

Total Request: \$321,930

Total Amount of Proposed Project:

Phase 1: \$163,460

Phase 2: \$342,430

Total Project: \$505,890

Duration of Project:

Phase 1: 2024, 6 months

Phase 2: 2025, 8 months

Point of Contact (POC): Greg Owen

POC Telephone: 701-712-7908

POC Email: grego@capitalelec.com

**POC Address: 7401 Yukon Drive, Bismarck,
ND 58503**

TABLE OF CONTENTS

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| Project Timeline | 8 |
| Project Budget | 10 |
| | |
| | |
| | |

Applicant Description

Provide a description of the applicant (i.e., type of entity, corporate structure, MWh sold annually, etc.).

Project Description

Provide a description of the project with enough detail to allow the reviewers to adequately evaluate the project.

Standards of Success

Provide a description of how the proposed project will fulfill any or all of the program objectives.

Project Timeline

Provide a project timeline including anticipated start date, significant project milestones, and anticipated project completion date or project duration.

Project Budget

Provide a total project budget, clearly describing the amount of funding requested from NDTA.

Applicant Description

Capital Electric Cooperative (Capital), a rural electric distribution cooperative located in Bismarck, North Dakota, has been serving electricity to its member consumers in Burleigh and southern Sheridan counties since 1948. Capital serves more than 18,714 member consumers, providing nearly 400,000 MWh of electrical service annually to 22,155 locations. Capital owns more than 2,806 miles of distribution line, of which approximately 46% of those lines are underground cable. Capital is a member of and takes transmission service from Central Power Electric Cooperative, Inc, an electric transmission cooperative headquartered in Minot, ND.

Capital has 38 full-time and 2 part-time staff, governed by a board of directors comprised of nine member consumers. The board meets on the fourth Friday of each month, and an annual meeting for the membership is held in June each year. Capital's headquarters is located at 7401 Yukon Drive, Bismarck, ND 58503.

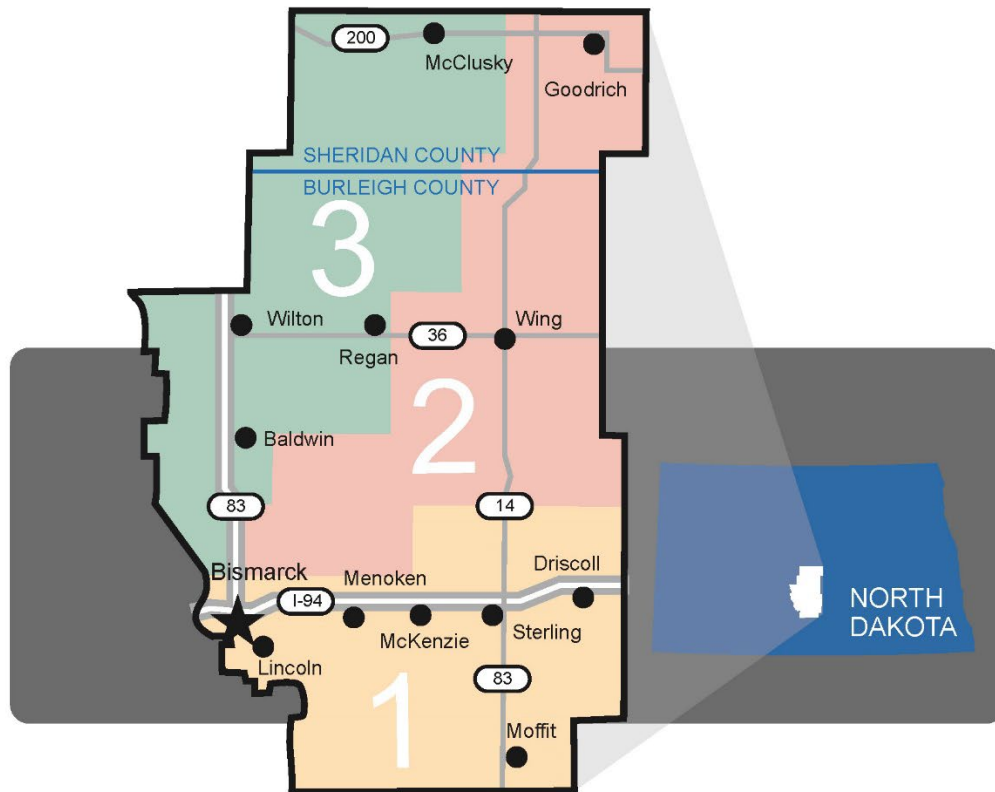


Figure 1: Capital's Service Territory Map

Project Description

Capital’s project proposal of converting 49 highway overhead crossings to underground cable is provided in two phases. Phase 1 encompasses converting 18 overhead distribution line road crossings to underground conductors. Phase 1 would bury crossings over North Dakota State Highway 14, between Wing and the Sterling I-94 interchange. This segment of roadway has been proposed by the North Dakota Department of Transportation (NDDOT) to receive an improvement of full-depth pavement reclamation, new surfacing, and widening of the roadway, to be completed in 2024. A summary of the NDDOT project is attached as Exhibit 1 to this proposal. Capital’s Phase 1 project would be completed in coordination with the NDDOT project, supporting anticipated construction phasing and milestones.

Capital has completed Phase 1 preliminary engineering and design for converting the existing 18 overhead crossings to underground cable. A summary of each crossing’s details and locations is shown in the table below as well as Capital’s project summary map is attached as Exhibit 2. Each crossing would install underground cable using directional boring techniques from boundaries of Highway 14 right of way, which varies in width from approximately 200 to 300ft along the project corridor. At each edge of the right of way, cables would be connected at the existing poles to the remaining overhead conductors to continue service, with the final step of removing the overhead conductors from over the roadway.

Table 1: Summary of Phase 1 Project, Highway 14 Road Crossing Locations

| Crossing No. | Phase(s) | Section(s) | Township | Range |
|--------------|----------|------------|----------|-------|
| 1 | 2-ph | 10 | 142 | 76 |
| 2 | A-ph | 10 | 142 | 76 |
| 3 | B-ph | 10 | 142 | 76 |
| 4 | B-ph | 10 | 142 | 76 |
| 5 | B-ph | 26, 27 | 142 | 76 |
| 6 | B-ph | 26, 27 | 142 | 76 |
| 7 | B-ph | 2, 3 | 141 | 76 |
| 8 | 2-ph | 14, 15 | 141 | 76 |
| 9 | C-ph | 14, 15 | 141 | 76 |
| 10 | 3-ph | 26, 27 | 141 | 76 |
| 11 | A-ph | 8, 9 | 140 | 76 |
| 12 | A-ph | 8, 9 | 140 | 76 |
| 13 | A-ph | 16, 17 | 140 | 76 |
| 14 | C-ph | 20, 21 | 140 | 76 |
| 15 | 3-ph | 28, 29 | 140 | 76 |
| 16 | C-ph | 8, 9 | 139 | 76 |
| 17 | C-ph | 16, 17 | 139 | 76 |
| 18 | A-ph | 20, 21 | 139 | 76 |

For the project Phase 2, the concept for 31 additional state and federal highway crossings.

- Along ND Highway 36 between Regan and Kidder County, 14 overhead crossings.
- Along US Highway 83 between Sterling and Emmons County, 8 overhead crossings.
- Along US Interstate 94 between Bismarck and Kidder County, 9 overhead crossings.
- The same techniques used on Phase 1 will be utilized on the Phase 2 project. The I-94 crossings will require longer bores, where the road right of way width approaches 500ft.
- A map of the proposed Phase 2 project is attached as Exhibit 3 and detailed below.

Table 2: Summary of Phase 2 Project, Highway 36, 83, and Interstate 94 Road Crossing Locations

| Crossing No. | Highway | Phase(s) | Section(s) | Township | Range |
|--------------|---------|----------|------------|----------|--------|
| 19 | ND36 | C-ph | 4, 9 | 142 | 77 |
| 20 | ND36 | C-ph | 10 | 142 | 77 |
| 21 | ND36 | C-ph | 2, 11 | 142 | 77 |
| 22 | ND36 | C-ph | 2, 11 | 142 | 77 |
| 23 | ND36 | C-ph | 1, 12 | 142 | 77 |
| 24 | ND36 | A-ph | 5, 8 | 142 | 76 |
| 25 | ND36 | A-ph | 4, 9 | 142 | 76 |
| 26 | ND36 | 2-ph | 3 | 142 | 76 |
| 27 | ND36 | A-ph | 1, 12 | 142 | 76 |
| 28 | ND36 | B-ph | 6, 7 | 142 | 75 |
| 29 | ND36 | B-ph | 4, 9 | 142 | 75 |
| 30 | ND36 | A-ph | 3, 10 | 142 | 75 |
| 31 | ND36 | A-ph | 2, 11 | 142 | 75 |
| 32 | ND36 | A-ph | 2, 11 | 142 | 75 |
| 33 | US83 | B-ph | 4, 5 | 138 | 76 |
| 34 | US83 | B-ph | 28, 29 | 138 | 76 |
| 35 | US83 | A-ph | 8, 9 | 137 | 76 |
| 36 | US83 | C-ph | 16, 17 | 137 | 76 |
| 37 | US83 | 3-ph | 20 | 137 | 76 |
| 38 | US83 | B-ph | 20 | 137 | 76 |
| 39 | US83 | B-ph | 28, 29 | 137 | 76 |
| 40 | US83 | B-ph | 13, 18 | 136 | 76, 77 |
| 41 | I-94 | B-ph | 11, 14 | 139 | 75 |
| 42 | I-94 | B-ph | 10, 15 | 139 | 75 |
| 43 | I-94 | A-ph | 18 | 139 | 75 |
| 44 | I-94 | A-ph | 14 | 139 | 76 |
| 45 | I-94 | B-ph | 22, 27 | 139 | 77 |
| 46 | I-94 | B-ph | 20, 29 | 139 | 77 |
| 47 | I-94 | B-ph | 19, 30 | 139 | 77 |
| 48 | I-94 | C-ph | 22, 27 | 139 | 78 |
| 49 | I-94 | C-ph | 19, 30 | 139 | 78 |

Standards of Success

Enhancing grid resiliency is a core element of Capital's long-term infrastructure plans, demonstrated by annual investments in rebuilding 25 miles of overhead line and strategic conversions of overhead to underground conductors. Specific to overhead highway crossings, Capital converted the final overhead crossing of Highway 83 north of Bismarck in 2022; Bismarck to Wilton is free from overhead distribution line crossings, while some higher voltage transmission lines remain. Eliminating remaining overhead crossings from state and federal highways is a strategic initiative Capital commits to perusing.

The success of the proposed project can be summarized by the following impacts:

1. Reducing the magnitude and duration of grid outages. Power lines, distribution in particular, tend to follow and cross major roadways due to the increased population and development near the roadways. As such, greater numbers of consumers are impacted when these segments are damaged by a major event. Spans between poles tend to be longer, often utilizing taller structures to ensure clearance over the roadways, making them more suspect to weather events such as lightning or strong winds. The same spans present additional hazards when heavily laden with ice or frost, causing extreme sag in the conductors. A downed conductor, especially in these storm conditions, requires additional care and response time to first clear the roadway of debris then utilize additional bucket trucks and/or stringing equipment to safely install new conductor over the roadway. By eliminating overhead roadway crossings, durations of outages are reduced by avoiding the challenges of reconductoring over an active roadway. Putting sections of underground conductors within an overhead segment also reduce the magnitude of grid outages by limiting the domino effect of one downed pole pulling down the next and the next; this is an alternative to installing specialized, expensive overhead structures designed for this cascade-limiting purpose.
2. Reducing the frequency and impacts of a major storm/non-storm event. While most overhead outages are temporary in nature (ex. lightning strikes, animal/tree contact), permanent outages such as a downed line or broken pole have significant effects on grid service. Crews must be dispatched, often after normal business hours, to clear the cause of the fault and then rebuild the overhead structures. By converting the overhead conductors to underground, the temporary causes of outages are eliminated simply by removing the possibility of a contact. Road right of way, especially state or federal right of way, has procedures for entities looking to install facilities within the right of way, so the chances of an unintentional dig-in are yet further reduced specifically in the case of road crossings; thus, the most likely cause of an outage in a crossing location would be a cable fault, of which Capital has yet to experience one in the 30+ years of installing modern underground cable. While Capital cannot guarantee outage-free service, installation of underground cable presents the best solution for obtaining the lowest outage frequency possible.

3. Providing lower-cost energy access to disadvantaged or underserved communities. The impacts in this category of the proposed project can be highlighted as follows:
- a. Converting the overhead lines to underground conductors in this project will utilize larger gauge (diameter) conductors, which inherently have a lower impedance per foot than the existing overhead conductors, resulting in reduced line losses on these segments. Reduction in line losses helps eliminate wasted energy and thus better financial cost of service to the member consumers. Kidder county, east of the proposed project area, is identified as a disadvantaged community (38043966800); Capital's lines impacted by these projects do extend service into Kidder County as well, thus a disadvantaged community will see benefits.
 - b. House movers often utilize the Highway 83/36/14 corridor to move homes around the Bismarck area, avoiding the myriad clearance conflicts therein. As such, Capital is often called to raise overhead crossings in this project area to ensure safe passage of a moved home. In a typical year, Capital crews escort 6 homes through this area, with each move committing one crew for the day to raise lines. While movers are charged for the crew's time, this effort makes the crew unavailable for other tasks during the day, which can result in inefficient dispatching of remaining crews in the event of an outage. Each time the lines are raised puts additional stress on the conductors and hardware, making them more susceptible to outages in future storm events. By burying overhead highway crossings, the member consumers benefit from greater crew availability and productivity, as well as reduction in future outage events made more susceptible by these activities.
 - c. Perhaps most importantly, converting overhead roadway crossings to underground presents enhanced safety and services to the public. A downed overhead line on a roadway is an extreme hazard to the public, as the line can stay energized without tripping a protective device (asphalt is an excellent insulator). It is commonly thought that a line on the ground is dead and safe to drive over—not true! Education helps, but the best safeguard against accidental contact is to remove the possibility completely. Similarly, eliminating overhead crossings also ensures a downed line is not an impediment to public services such as snowplows, highway patrol, and ambulance services. After hours response time to the proposed project area is often 30 minutes during good driving conditions, with longer times expected during storm events; any minute of delay to a first responder arriving on-scene can make the difference between life or death, thus eliminating the overhead roadway crossings presents a significant benefit to public safety and services. A letter from NDDOT supporting Capital's proposed Phase 1 project is attached as Exhibit 4.

Project Timeline and Team

Capital's proposed Phase 1 project would be completed in 2024, performed in close coordination with NDDOT's project team. The need to coordinate is important for both organizations to:

1. Ensure any existing overhead lines are converted before clearances become a hinderance to road construction. If a line would need to be raised to support construction equipment, installing taller poles just to bury the crossing shortly thereafter is financially imprudent.
2. Ensure any new underground is installed at sufficient depth to not create a conflict during road construction. Cuts to existing roadways are often made to change a grade or install a culvert, thus Capital will work with the NDDOT team to ensure their design requirements are incorporated into Capital's construction.

Once the NDDOT project is awarded and construction begins, Capital anticipates being able to complete on average two crossings per week; the overall Phase 1 project could be completed as quickly as nine weeks yet will likely be executed in segments to correspond with the NDDOT project. These details will be discussed at the NDDOT coordination kickoff meeting and subsequent construction meetings. In summary, Capital's Phase 1 project is expected to begin in May and be completed by November 2024.

Capital's Phase 2 project would enter detailed design and environmental review in 2024, with the goal of being ready to start construction in May of 2025. The 31 crossings proposed in Phase 2 will take a bit longer than Phase 1, especially related to the I-94 crossings; these crossings may average completion of one per week. The remaining 22 crossings can be completed on a similar two-per-week schedule as was completed in Phase 1. The complete scope is anticipated to be completed in six months, yet a project duration of eight months is utilized to account for the unexpected and potential weather delays.

Capital will continue coordination with NDDOT for the proposed Phase 2 project, as I-94 is projected to have resurfacing from Bismarck to Menoken in 2026 as well as a reconstruction of the Sterling Interchange in 2025. Any of the I-94 crossings proposed by Capital will be checked with NDDOT engineers to ensure any underground cables are installed at sufficient depth to avoid any cuts or grading changes being considered for the interstate.

Capital has planned for utilizing the following team to complete the proposed projects:

- Greg Owen, Manager of Engineering Services: point of contact for the projects.
- Beau Townsend, Staking Engineer: design of overhead to underground.
- Corey Bruner, Staking Specialist: design of overhead to underground.
- James Keller, GIS Specialist: edits electronic mapping system.
- Darren Becker, Work Order Coordinator: compiling project accounting records & grant administration.
- Operations Department, including Operations Manager, Foreman, Lead Linemen, Journeyman Linemen, and Apprentice Linemen: responsible for removal of overhead lines and connecting underground cable to remaining overhead structures. All field personnel in the Operations Department participate in Local Union 1593, International Brotherhood of Electrical Workers.
- Underground Contractor, selected from Capital's approved contractor list: responsible for directional boring of new cable under roadway.

Capital's internal team and contractors are highly experienced in completing this type of project. The engineering team utilizes software tools to directly enter and track design and materials throughout a project lifecycle. GIS edits are quickly made to ensure field crews have up-to-date information on their mobile devices. Operations personnel routinely perform these types of overhead retirements and underground connections. Capital's underground contractors are familiar with NDDOT and ND One Call requirements to ensure permits and locates are properly documented. Resumes of specific individuals or positions can be made available upon request. While Capital does not plan on directly hiring additional staff to support this project, an additional dedicated contractor crew of up to four workers may be hired to complete this scope of work.

One variable with scheduling can often be the time required to complete an environmental review (when required). Capital contracted with HDR Engineers to complete an environmental review for Phase 1 in accordance with the RUS review guidelines. The necessary request for comments has been sent to appropriate agencies with any comments received and addressed, including a concurrence of no historic properties affected from the North Dakota State Historical Preservation Office. Threatened and Endangered species have been evaluated and determined the project will have not affect. Relevant environmental review documents are attached as Exhibit 5. A similar effort will be undertaken in 2024 to support the proposed Phase 2 project construction in 2025.

In summary, Capital is prepared and committed to completing the proposed Phase 1 project by November 2024 and Phase 2 project by December 2025.

Project Budget

Due to the variation in road right of way widths and unknowns of any additional considerations from NDDOT's road reconstruction project, the costs for each Phase 1 crossing are based on an assumed 250ft of directional boring. Additional costs are included for each two or three-phase crossing, as well as anticipated costs for administering the required compliance and reporting associated with the grant itself. Phase 2 costs include a price escalation factor to account for inflationary pressures, as well as longer boring lengths for the I-94 crossings. Phase 2 also includes the cost for completing the environmental review process. A contingency of 10% is included to account for the unknowns of each location (ex. excavation of large rocks) as well as potential cost pressures not yet quantifiable.

In terms of costs avoided by the proposed projects, a downed line over a roadway could take two crews two hours to mobilize/demobilize, plus four hours to remove and repair the damaged overhead conductors. This time may be extended in the event of a major storm, along with utilizing additional resources to string new conductor over an active roadway. This will most likely occur in the afterhours, quite possibly totaling >\$2,500 in labor and materials for a single crossing. Each house move through Capital's system typically costs \$1,200 in labor and equipment time. Considering the costs if a life was lost, whether due to direct contact or due to impeded first responders, the costs can be hundreds of thousands if not in the millions of dollars. While the cases of an outage or death are difficult to quantify on an annual basis, at minimum the costs for six house moves a year is \$7,200, which is approximately equal to one roadway crossing conversion.

Capital is willing to provide more of a cost share (up to 50%); however, due to the overall size of the projects consisting of many smaller components, Capital strongly encourages NDTA to consider providing 70% of the cost recovery for Capital to fully realize the benefits of the grant, awarding an amount of \$321,930. A summary of the proposed project budget is shown in the table below.

Table 3: Budget Summary for Capital's Proposed Projects

| Phase 1 Project Costs: Direct Labor, Overhead, Materials, and Contracted Services, per RUS Accounting | | | |
|---|------------------|-----------------|---------------|
| Crossing No. | Contracted Costs | Internal Costs | Total |
| 1-18 | \$ 109,000.00 | \$ 32,400.00 | \$ 141,400.00 |
| | | | |
| Grant Administration Costs: | | | \$ 7,200.00 |
| | | | |
| | | Phase 1 Total | \$ 148,600.00 |
| | | Ph1 Cont. 10% | \$ 14,860.00 |
| | | Ph1 Grand Total | \$ 163,460.00 |
| | | Ph1 CEC 30% | \$ 44,580.00 |
| | | Ph1 Grant 70% | \$ 104,020.00 |
| Phase 2 Project Costs: Direct Labor, Overhead, Materials, and Contracted Services, per RUS Accounting | | | |
| Crossing No. | Contracted Costs | Internal Costs | Total |
| 19-49 | \$ 228,000.00 | \$ 60,050.00 | \$ 288,050.00 |
| | | | |
| Environmental Review: | | | \$ 10,850.00 |
| Grant Administration Costs: | | | \$ 12,400.00 |
| | | | |
| | | Phase 2 Total | \$ 311,300.00 |
| | | Ph2 Cont. 10% | \$ 31,130.00 |
| | | Ph2 Grand Total | \$ 342,430.00 |
| | | Ph2 CEC 30% | \$ 93,390.00 |
| | | Ph2 Grant 70% | \$ 217,910.00 |
| Summary | | | |
| Summary | Phase 1 | Phase 2 | Total |
| Total | \$ 148,600.00 | \$ 311,300.00 | \$ 459,900.00 |
| Cont. 10% | \$ 14,860.00 | \$ 31,130.00 | \$ 45,990.00 |
| Grand Total | \$ 163,460.00 | \$ 342,430.00 | \$ 505,890.00 |
| CEC 30% | \$ 44,580.00 | \$ 93,390.00 | \$ 137,970.00 |
| Grant 70% | \$ 104,020.00 | \$ 217,910.00 | \$ 321,930.00 |

Exhibit 1: NDDOT's Highway 14 Project Summary

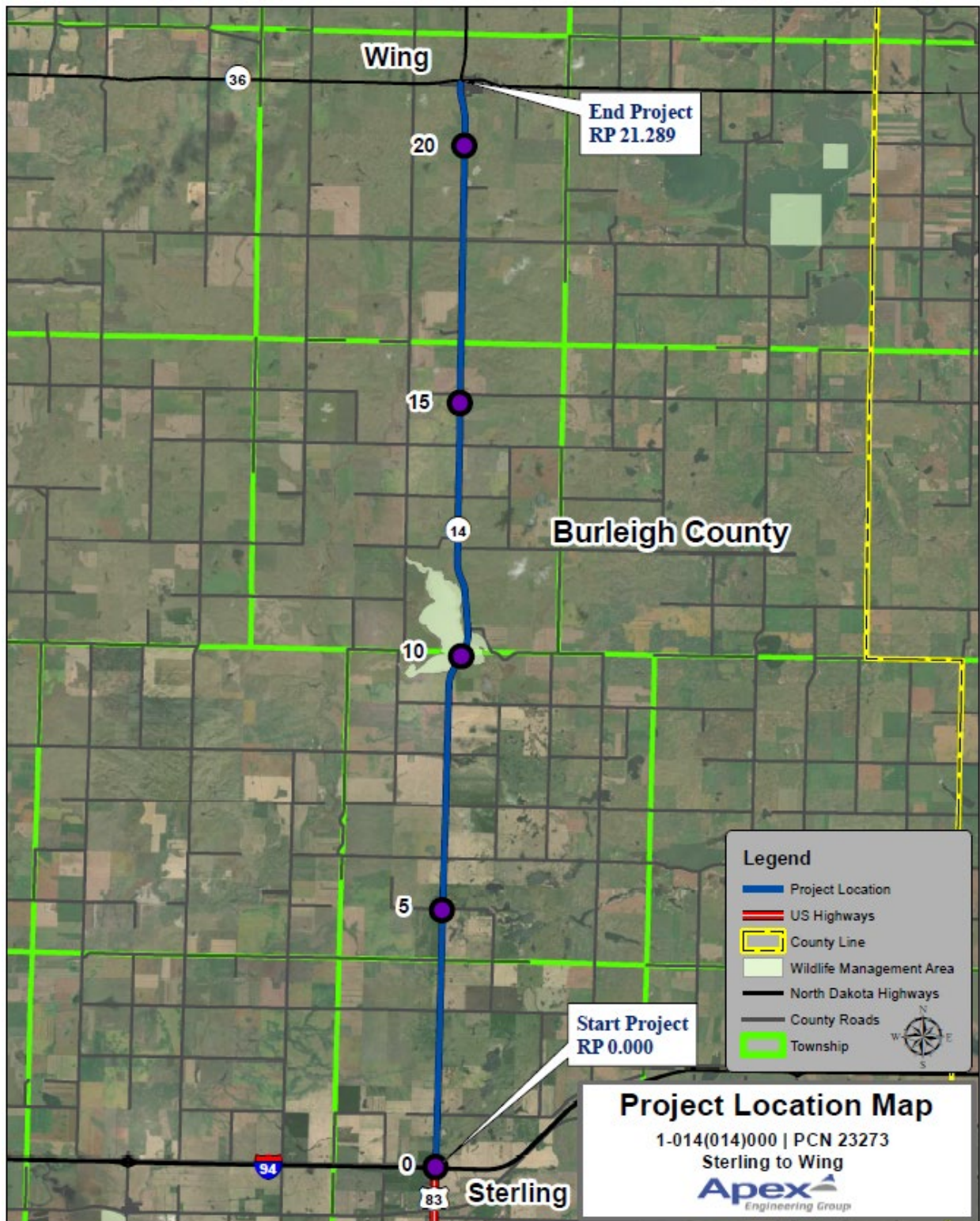


Exhibit 2: Capital's Phase 1 Project Summary

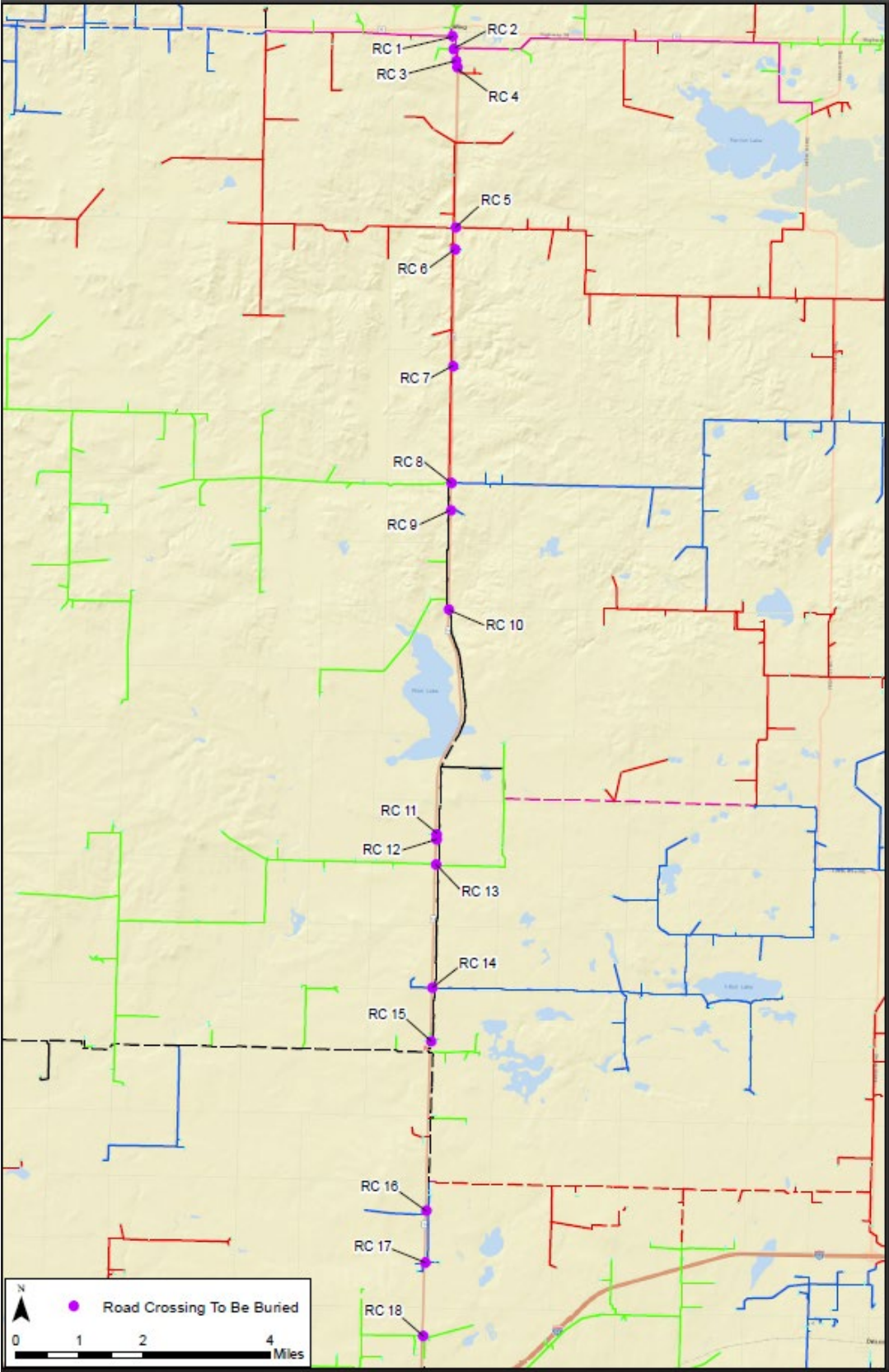


Exhibit 3: Capital's Phase 2 Project Summary

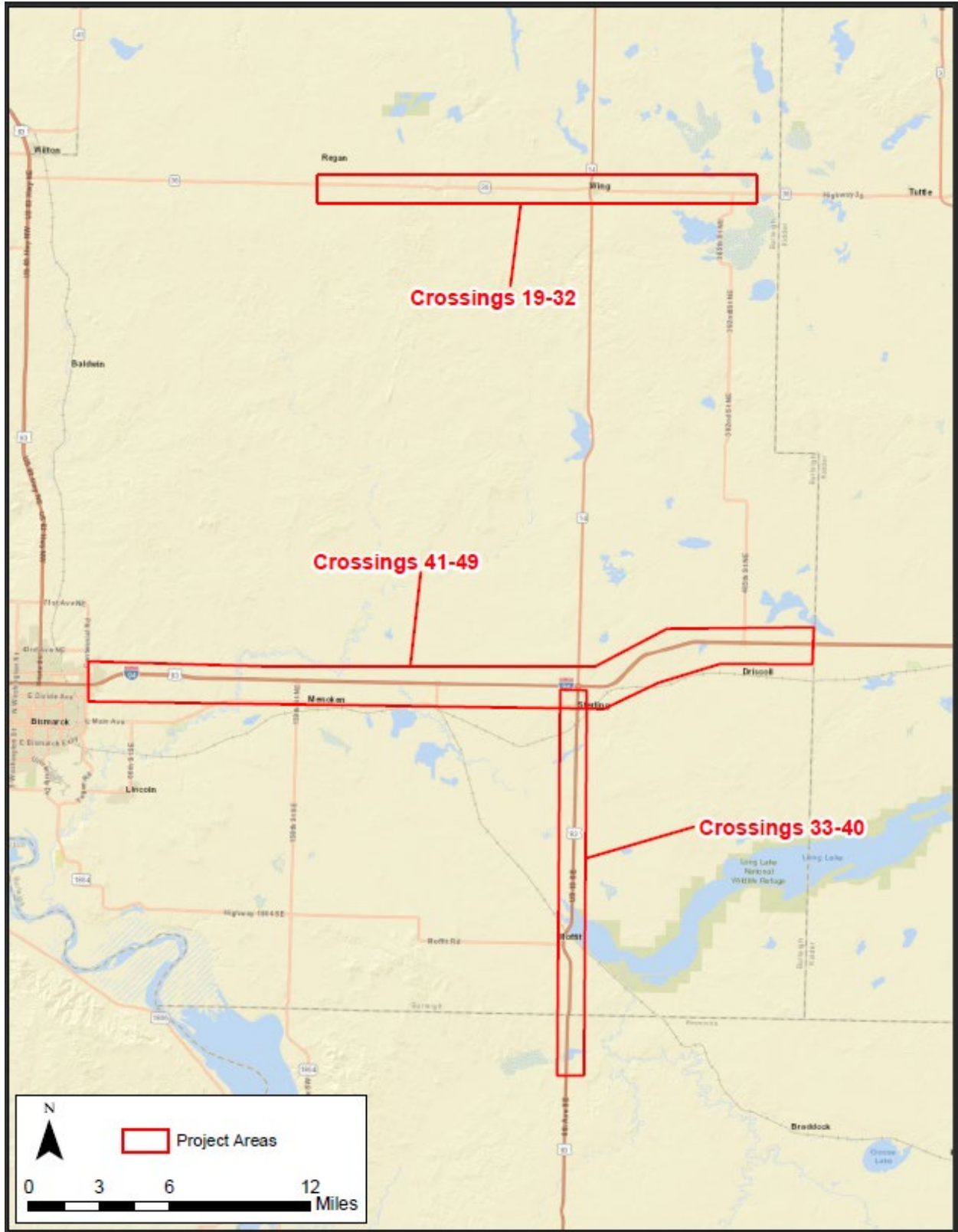


Exhibit 4: NDDOT Letter of Support for Capital's Phase 1 Project



November 9, 2023

Claire Vigesaa
Executive Director
North Dakota Transmission Authority
600 E. Boulevard Ave, Dept. 405
Bismarck, ND 58505-0840

Dear Director Vigesaa:

RE: NDDOT SUPPORTS CAPITAL ELECTRIC COOPERATIVE'S APPLICATION FOR NORTH DAKOTA TRANSMISSION AUTHORITY (NDTA) FUNDS

The North Dakota Department of Transportation is pleased to support Capital Electric Cooperative in its application under NDTA's grid resilience funding opportunity. We understand that NDTA seeks to deploy and catalyze projects that reduce the magnitude and frequency of interruptions, minimizing impacts that outages can cause to consumers and the public. The project will advance these objectives by eliminating spans of overhead conductor that can cause blockages to not only public traffic, but public services provided by snowplow operations and first responders to an important section of rural area in Capital Electric's service territory.

This Letter of Support confirms the support and involvement of Capital Electric Cooperative, having offices at 7401 Yukon Drive, Bismarck, ND 58503, in the development of a project resulting in a more resilient electric grid in North Dakota. The project is to convert overhead distribution line crossings over North Dakota Highway 14 between the towns of Sterling and Wing to underground cable by boring under the roadway crossing. This segment of highway currently has 20 overhead distribution line crossings, and each of these crossing locations represents a potential failure point that can lead to road closures/blockages hindering response abilities for public service entities. By converting these overhead crossings to underground cables, the impacts to these potential downed conductors can be eliminated.

Our Bismarck District Engineer, Larry Gangl, looks forward to working with Capital Electric Cooperative on this project to coordinate the work within NDDOT right-of-way to ensure a resilient electric grid in North Dakota.

Sincerely,



RJH
for
the

Ronald J. Henke, PE
Director

17/rjg
C: Larry Gangl, Bismarck District Engineer



608 East Boulevard Avenue | Bismarck, ND 58505-0700 | dot.nd.gov
TOLL FREE: 1-855-637-6237 | TTY: 711



Exhibit 5: Phase 1 Environmental Review Documents



STATE HISTORICAL SOCIETY
OF NORTH DAKOTA

HISTORY FOR *everyone.*

March 13, 2023

Tina Fricke-Robinson
HDR, Inc.
3231 Greensboro Drive
Suite 200
Bismarck, ND 58503

ND SHPO Ref.: 23-5416 Capital Electric Cooperative Project 367, Replace 20 miles of OH (overhead) with URD, Hwy Crossings in portions of [T142N R76W Sec - 10, 11, 15, 22, 27 & 34] [T141N R76W Sec - 3, 10, 15, 22, 23, 26, 27, & 35] [T140N R76W Sec - 4, 9, 16, 21, 28, 33] [T139N R76W Sec - 4, 9, 16, 21] Burleigh County, North Dakota

Dear Tina,

We reviewed ND SHPO Ref.: 23-5416 Capital Electric Cooperative Project 367, Replace 20 miles of OH (overhead) with URD, Hwy Crossings in portions of [T142N R76W Sec - 10, 11, 15, 22, 27 & 34] [T141N R76W Sec - 3, 10, 15, 22, 23, 26, 27, & 35] [T140N R76W Sec - 4, 9, 16, 21, 28, 33] [T139N R76W Sec - 4, 9, 16, 21] Burleigh County, North Dakota and we concur with a determination of "No Historic Properties Affected" for this project provided it takes place in the location and in the manner described in the documentation and provided all borrow comes from an approved source.

Thank you for the opportunity to review this project. Please include the ND SHPO Reference number listed above in further correspondence for this specific project. If you have any questions please contact Lisa Steckler, Historic Preservation Specialist at (701) 328-3577 or lsteckler@nd.gov

Sincerely,

for William D. Peterson, PhD
State Historic Preservation Officer
(North Dakota)

23-5416

North Dakota Heritage Center & State Museum
612 East Boulevard Avenue
Bismarck, ND 58505-0830

701.328.2666
histsoc@nd.gov

history.nd.gov
statemuseum.nd.gov

7 CFR 1970 Environmental Policies and Procedures

Environmental Report

RUS Project 367, Burleigh County, ND

Capital Electric Cooperative

Note: this is an excerpt from the full environmental report, including agency responses. A copy of the full report will be made available upon request.

Greg Owen

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Attachments

- Attachment A – Formally Classified Lands
- Attachment B – Environmental Justice
- Attachment C – Contamination and Toxic Substances
- Attachment D – Section 106 Historic Properties and Tribal Consultation
- Attachment E – Threatened and Endangered Species
- Attachment F – Floodplains
- Attachment I – Air Quality
- Attachment H – Water Quality
- Attachment I – Agency Letters and Responses

PROJECT DESCRIPTION

ENVIRONMENTAL REPORT
2023-2026 Construction Work Plan
RUS Project 367

Applicant: Capital Electric Cooperative (CEC)

Total Estimated Project Cost: \$103,000

Project Description

Project activities include the replacement 20 miles of OH (overhead) with AL-URD (aluminum underground) distribution line at all highway crossings. Soil and vegetation impacts will be minimized by avoiding construction activities during wet periods when vehicle traffic may damage the land surface. No tree removal would be required. The area footprint would be approximately 245 acres. The project is anticipated to be constructed during the spring/summer of 2026.

Construction Descriptions:

- Boring method: ground disturbance of approximately 6 inches at point of entry and exit with ground disturbance occurring vertically to a depth of 4 feet with horizontal disturbance for length of project.
- Trenching: ground disturbance of approximately 6 inches wide occurring from the surface to the depth of 4 feet for length of project with dirt backfilled and rehabilitation of right of way upon project completion.
- Plowing: ground disturbance of approximately 6 inches with “knife blade” creating trench with ground disturbance occurring from the surface to the depth of 4 feet for the length of the project with ground repacked upon project completion.

The project setting would be located adjacent to existing roadways, located in land used for agricultural purposes. There are wetlands present in the area based on National Wetlands Inventory (NWI) data. Tribal lands are not located within the CEC service area and therefore CEC will not require easements from any Tribes.

Project Location

The Project is located south of Wing (46.996267, -100.278088) in Burleigh County, North Dakota and is located in Sections 4, 9, 16, 21, T139N, R76W, Sections 4, 9, 16, 21, 28, 33, T140N, R76W, Sections 3, 10, 15, 22, 23, 26, 35, T141N, R76W, Sections 10, 15, 22, 27, and 34, T142N, R76W. The project is located along Highway 14, beginning just north of 5th Avenue W in Wing and terminating south of 43rd Avenue NE.

Project Purpose and Need

The purpose of this project is to replace existing lines with underground lines to eliminate road crossing issues along the project corridor. CEC staff has identified the need for improved service reliability and replacement of aged facilities.

Level of Review Determination

1970.54 (c)1

Impact Summary

Land Ownership and Land Use

Most of the project is located in land that is used as agricultural land, with a portion of the project crossing the Rice Lake Wildlife Management Area (WMA), and a minor part of the project located in the city of Wing. Impacts to the WMA will be avoided, as work is only being completed at the road crossings and would be completed by boring. The proposed project will not cross any prime forest land. Conventional underground construction techniques and rehabilitation methods would not permanently displace lands and would provide for little to no long-term impact to the construction areas. No prime or unique farmland, farmland of statewide importance, or rangeland would be converted from this project. Farming is allowed within the easement area. The project would be located within existing utility easement right-of-way.

Formally Classified Lands

No lands formally classified lands are located within the area, including Coastal Barriers/National Seashores, National Forests, National Landmarks, National Parks, National Trails, Wild & Scenic Rivers, National Rivers Inventory, National Wildlife Refuges, National Wilderness, and State Lands/State Parks (see Attachment A).

Environmental Justice

The project is not anticipated to have any impacts to low income or minority populations as no environmental justice populations have been identified near the project area (see Attachment B).

Contamination and Toxic Substances/Environmental Risk Management

No areas of known contamination occur within the area (see Attachment C).

Historic Properties and Cultural Resources

SHPO consultation was initiated on February 2, 2023. SHPO concurrence of “No Historic Properties Affected” was received on March 3, 2023. Tribal consultation was initiated through letters sent on February 20, 2023. One formal response from the tribes that were contacted were received within the 30-day comment period. No requests for further consultation were received. The Lower Brule Tribe indicated no further coordination was needed for their interests (see Attachment D).

If during the course of any ground disturbance related to any project, any bones, artifacts, foundations, or other indications of past human occupation of the area are uncovered, the project will be stopped, and the State Historic Preservation Officer and RUS notified immediately.

Threatened and Endangered Species

The proposed project is normally not considered a “major construction activity” as defined in 50 CFR 420.02.

Title 50: Wildlife and Fisheries, Part 402-Interagency Cooperative-Endangered Species Act of 1973, as amended, defines *Major construction activity* as a construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly

affecting the quality of the human environment as referred to in the National Environmental Policy Act [NEPA, 42 U.S.C. 4332(2)(C)].

Although not considered a threatened or endangered species, bald eagles are protected under the Bald and Golden Eagle Protection Act. Bald Eagles are typically observed near rivers or large lakes but can be found in open dry country, particularly during migration. CEC will not perform any construction activities with ¼ mile of an active bald eagle nest. Construction would not require a “take” of bald or golden eagles or their nests/eggs.

The project will be replacing aging facilities with new underground distribution lines. There will be no tree clearing or heavy vegetation removal needed, only a narrow path of vegetation will be disturbed.

If threatened or endangered species are found within 1 mile of the project site, construction work will cease activities in the vicinity until an avoidance area is established. RUS and USFWS will be notified if any of the threatened or endangered species listed below are observed to be in the area. Work will not resume until the Engineer has confirmed with the agencies that work may proceed. See Attachment E for official species list generated through the Information for Planning and Consultation (IPaC) online tool.

Table 1. Threatened and Endangered Species Evaluation Table

| Common Name | Scientific Name | Federal Status | Critical Habitat Present | Critical Habitat | Description of Suitable Habitat (cite source(s)*) | Proposed Finding of Effect | Explain Reasoning for Proposed Determination |
|----------------|------------------------------|----------------|-------------------------------------|------------------|--|----------------------------|---|
| Piping plover | <i>Charadrius melodus</i> | Threatened | Yes, over 5 miles away from project | No | Sandy beaches or sand bars along the Missouri River. | No effect | Suitable habitat is not present. |
| Red knot | <i>Calidris canutus rufa</i> | Threatened | No | No | Sandy beaches or sand bars along the Missouri River. | No effect | Suitable habitat is not present. |
| Dakota skipper | <i>Hesperia dacotae</i> | Threatened | No | No | High-quality mixed and tall grass prairie. | No effect | Suitable habitat is not present. |
| Whooping crane | <i>Grus americana</i> | Endangered | No | No | Shallow lake margins or among rushes and sedges in wetlands. Sites with minimal human disturbance. | No effect | Due to the current disturbance of the area where projects would occur and proximity to active roadways/farming practices, it is less likely whooping cranes would use the project area as stopover habitat; therefore, direct effects are unlikely. |

*United States Fish and Wildlife Service. 2023. Information for Planning and Consultation (IPaC). Available online at [IPaC: Home \(fws.gov\)](https://www.fws.gov/ipac).

Whooping crane: The whooping cranes' migratory corridor crosses through the northeast and south-central portions of North Dakota and the species will feed within the area during its migration. The project is located within in the whooping crane migration flyway, but construction activities would take place in active road rights of-way and active farmland. Due to the current disturbance of the area where projects would occur and proximity to active roadways/farming practices, it is less likely whooping cranes would use the project area as stopover habitat; therefore, direct effects are unlikely. Crews would be trained to identify whooping cranes and monitor the project site for presence of whooping cranes. If noted in the area, construction would cease and RUS and USFWS would be notified. The project is anticipated to have no effect on whooping cranes.

Rufa red knot: The rufa red knot prefers habitat similar to piping plovers, including sandy beaches or sand bars along the Missouri River. It is not known to nest along continuously maintained road ROW and direct effects are unlikely as suitable habitat is not present. Crews would be trained to identify rufa red knot and monitor the project site for presence of the bird. If noted in the area, construction would cease and RUS and USFWS would be notified. The project is anticipated to have no effect on the rufa red knot.

Piping plover: Piping plovers prefer shorelines and sandbar habitat. They are known to nest along the Missouri River and off-channel sand/gravel pits. They also may nest along barren sand or gravel shorelines of alkali lakes and wetlands. There is designated critical habitat for the piping plover in Burleigh County. The project is located over 5 miles from piping plover critical habitat. Suitable habitat is not located in the project area. Crews would be trained to identify piping plover and monitor the project site for presence of plovers. If noted in the area, construction would cease and RUS and USFWS would be notified. No impacts to the piping plover or designated critical habitat are expected.

Dakota skipper: The endangered Dakota skipper lives in high-quality mixed and tall grass prairie and lays eggs during the brief adult period in June and July. Habitat within the area consists of disturbed road right-of-way and agricultural fields consisting largely of non-native grasses. Therefore, no suitable habitat is in the area and directly effects are unlikely. The project is anticipated to have no effect on the Dakota skipper.

Wetlands

The USFWS NWI maps were reviewed, and the project will cross areas identified as wetlands based on NWI information along Highway 14 throughout the corridor. Wetlands within Section 10, T141N, R76W, and Sections 16 and 21, T140N, R76W are covered under USFWS wetland easements and will be avoided. Precautions will be taken in order to minimize the effect to the area. CEC intends to bore under the wetland crossings or reroute around to avoid construction in basins where possible to avoid disturbance to the wetlands. Wetland areas can be seen in Figures 1 and 2.

CEC is aware of Section 404 of the Clean Water Act that establishes a Federal-permitting program that regulates activities in wetlands. Section 404 requires that anyone proposing to deposit dredged or fill material into "Waters of the United States" including wetlands, must obtain a permit from the US Army Corps of Engineers, the agency responsible for administering Section 404 permitting process for such activities. Nationwide Permit 57 - Electric Utility Line and Telecommunications

Activities will be utilized for this project if wetlands impacts occur.

Floodplains

The project is not located within 100-year floodplain or floodway, based on an examination of the Federal Emergency Management Agency (FEMA) maps (see Attachment F).

Coastal Areas or Coral Reefs

No coastal resources are within the area.

Air Quality

The applicant does not anticipate any negative impact on air quality (see Attachment G).

Water Quality

The applicant does not anticipate any negative impacts on water quality (see Attachment H).

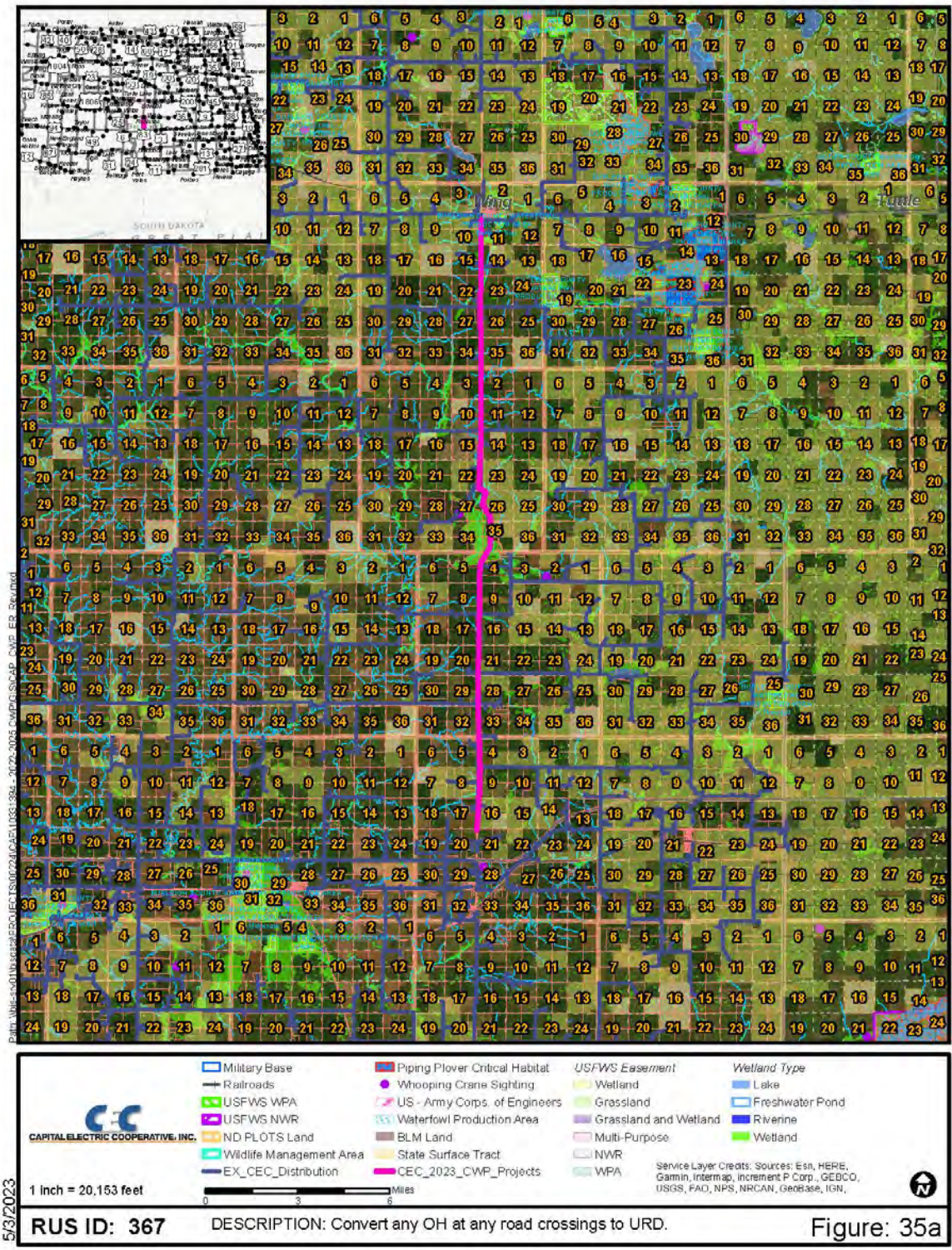
Aesthetics

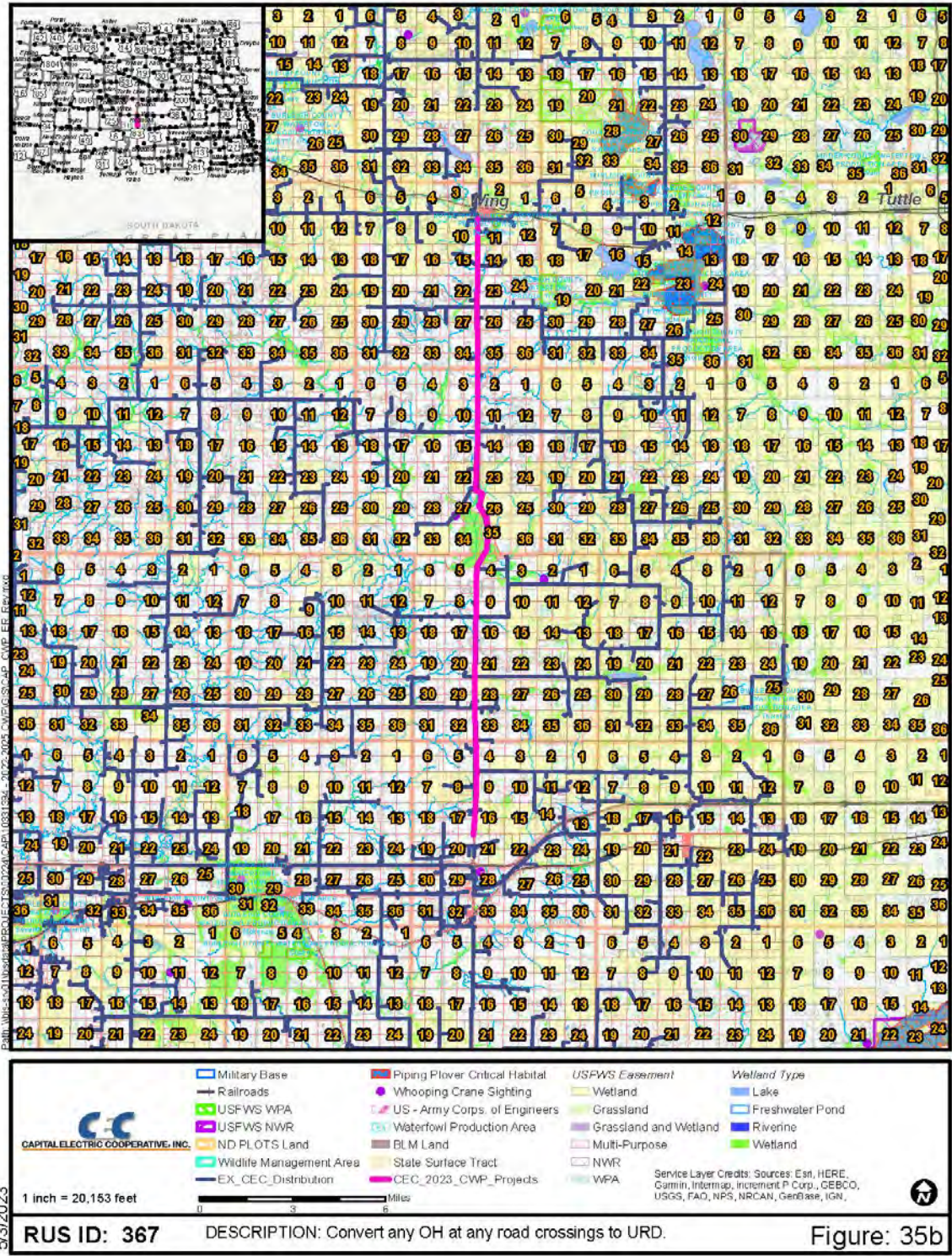
The project is not located in areas of high scenic beauty, scenic overlooks, scenic highways, wilderness areas, integral vistas, parks, national forests and along wild and scenic, recreational, or national inventory rivers and will have limited aesthetic impact for the general public.

Transportation

The project is not in close proximity to any airports and will not impair highway safety or navigable waterways. The access road used during construction will not increase traffic in a manner to impact the general public.

PROJECT MAPS





TECHNICAL REVIEWERS' RATING SUMMARY

IIJA-01-D

Next-Generation Grid Resiliency

Submitted By: Otter Tail Power Company

Date of Application: November 2023

Request for \$4,432,088 Grant

Total Project Costs \$11,177,647

| Rating Category | Weighting Factor | Technical Reviewer | | | Average Weighted Score |
|-----------------------------|------------------|--------------------|------------|------------|------------------------|
| | | A1 Rating | A2 Rating | A3 Rating | |
| 1. Objective 1 | 6 | 5 | 5 | 5 | 30 |
| 2. Objective 2 | 6 | 5 | 5 | 5 | 30 |
| 3. Objective 3 | 6 | 5 | 5 | 5 | 30 |
| 4. Level of Risk Mitigation | 9 | 4 | 4 | 5 | 39 |
| 5. Facilities and Equipment | 3 | 4 | 1 | 5 | 10 |
| 6. Budget | 9 | 5 | 5 | 5 | 45 |
| 7. Jobs Created | 3 | 5 | 2 | 5 | 12 |
| 8. Environmental Impacts | 3 | 5 | 1 | 5 | 11 |
| 9. Expertise | 6 | 3 | 3 | 5 | 22 |
| Total | 255 | 231 | 201 | 255 | 229 |

OVERALL TECHNICALLY SOUND

GOOD (IF > 170)

FAIR (160-170)

QUESTIONABLE (IF < 160)

| Mandatory Requirements | TR1 Yes | No | TR2 Yes | No | TR3 Yes | No |
|--|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| Eligible Entity and Project | | | | | | |
| Applicant and project eligible | x | | x | | x | |
| Research, Technology and Economic Security | | | | | | |
| Applicant demonstrates compliance with Build American/Buy America and provides information related to foreign national participation and ownership | x | | x | | X | |
| National Environmental Policy Act | | | | | | |
| Applicant has provided documentation of NEPA compliance or completed environmental questionnaire requesting a Categorical Exclusion from the NEPA compliance officer | x | | | x | X | |
| Davis-Bacon Act | | | | | | |
| Applicant has demonstrated that all laborers paid by the applicant and subcontractors comply | x | | x | | X | |
| Cost Share | | | | | | |
| Applicant meets the required cost-share of 1/3 of award value | x | | x | | x | |

1. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce magnitude and duration of grid outages. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 5) *OTP has shown that their proposal is proactive regarding grid resiliency. They are well aware of the benefits of a well a maintained system. They are also well aware of being able to respond quickly to a line failure and reduce outage time. OTP has also included a clear table defining measurements for standards of success.*

Reviewer TR2 (Rating 5) *OTP's Proposal meets all Objective and Metric Criteria.*

Reviewer TR3 (Rating 5) *Applicant clearly identifies the goal/objective.*

2. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce frequency and impacts of grid outages. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 5) *OTP has shown that their proposal is proactive regarding grid resiliency. They are well aware of the benefits of a well a maintained system. They are also well*

aware of being able to respond quickly to a line failure and reduce outage time. OTP has also included a clear table defining measurements for standards of success.

Reviewer TR2 (Rating 5) *OTP's Proposal meets all Objective and Metric Criteria.*

Reviewer TR3 (Rating 5) *Applicant identifies how they will reduce frequency and impact of outages using prioritized outage data.*

3. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Provide lower-cost energy access to disadvantaged or underserved communities. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 5) *OTP has described in detail the benefits that the disadvantaged or underserved communities would have after implementation of this project. OTP has also included a clear table defining measurements for standards of success.*

Reviewer TR2 (Rating 5) *OTP's Proposal meets all Objective and Metric Criteria.*

Reviewer TR3 (Rating 5) *This applicant provides service to rural locations. The application provides sufficient explanation of increased costs for rural and underprivileged areas.*

4. Level of risk mitigation: Applicant has provided a cost/benefit analysis demonstrating, based on stated objectives, how their project will reduce the frequency and/or the magnitude and duration of grid outages. 1-No Impact, 2-Small Impact, 3-Likely Impact, 4-Most Likely Impact, 5-Significant Impact

Reviewer TR1 (Rating 4) *OTP has provided a cost/benefit analysis. Their estimated benefit based on industry accepted calculators is \$30M.*

Reviewer TR2 (Rating 4) *OTP's Proposal relies upon Phase 1 physical and analytical assessments and will address/focus on "mitigation actions" in Phase 2.*

Reviewer TR3 (Rating 5) *Applicant identifies cost/benefit analysis w/ DOE's cost estimate calculator.*

5. Applicant has demonstrated sufficient resources to complete the project: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *OTP has listed vendors that are available to supplement their equipment. These contractors have been used before by OTP are ready to respond under existing agreements.*

Reviewer TR2 (Rating 1) *OTP will serve as a Lead Systems Integrator and will sub-contract a majority of the Scope of Work.*

Reviewer TR3 (Rating 5) *The applicant provided a construction estimate using DOE's calculators.*

6. The proposed budget is comprehensive and sufficient relative to the outlined work and the timetable, with higher priority given to applicants who exceed the minimum required cost-share. 1-Not Sufficient, 2-Possibly Sufficient, 3-Likely Sufficient, 4-Most Likely Sufficient, 5-Certainly Sufficient

Reviewer TR1 (Rating 5) *OTP has included a very complete, detailed and thorough line-by line budget.*

Reviewer TR2 (Rating 5) *OTP's "cost share totals x 9 = 40.86 \$6,745,559, 60% of the total program budget. NDTA's cost share, \$4,432,088, 40% of the total program budget, will cover the remaining budget, including: contractor, vegetation management, personnel, and community benefits." Total*

Budget: \$11,177,647 If 1/3 is assumed minimum Cost Share, then 1/3 = mean score of 2.5 And 100% = 5, Therefore 60% = Score of 4.54

Reviewer TR3 (Rating 5) *Applicant provided a breakdown of project costs.*

7. Applicant has quantified temporary and permanent jobs created as part of the project, with higher priority given to applicants with higher amounts. 1-Not Achievable, 2-Possibly Achievable, 3-Likely Achievable, 4- Most Likely Achievable, 5-Certainly Achievable

Reviewer TR1 (Rating 5) *OTP has provided a very good description of human resources that are available or are retained because of this project. They also describe new positions expected to be filled by vendors. They are showing a table of created jobs. This table and description also includes induced jobs. OTP also appears to have a strong connection with higher education facilities.*

Reviewer TR2 (Rating 2)

Reviewer TR3 (Rating 5) *Applicant did not quantify temp and permanent jobs.*

8. Applicant has identified any environmental impacts and demonstrated efforts taken to mitigate those impacts. 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 5) *OTP does not expect any environmental impacts. They have an experienced environmental team to monitor and mitigate any environmental impacts. They state that the DOE Environmental Questionnaire is included.*

Reviewer TR2 (Rating 1) *Otter Tail “We are not anticipating the program will create environmental impacts.”*

Reviewer TR3 (Rating 5) *Applicant stated that the projects will not have significant environmental impact, and they will comply with all environmental requirements and permitting.*

9. The background and experience of the project principals with regards to technical qualifications and competence is: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 3) *OTP has not provided resumes of project personnel. It appears that OTP relies heavily on contractors and their experience for project completion.*

Reviewer TR2 (Rating 3) *OTP will serve as a Lead Systems Integrator and will sub-contract a majority of the Scope of Work.*

Reviewer TR3 (Rating 5) *Applicant provided details of extensive internal experience and vendor experience.*

Section C. Overall Comments and Recommendations:

Please comment in a general way about the merits and flaws of the proposed project and make a recommendation whether or not the project is technically sound.

Reviewer TR1: *OTP has assembled a very detailed, complete, and professional proposal. Their timeline is clear and easy to interpret. All charts and maps are of high quality. Their project is based on high technology and the advancement of such. They have done due diligence and appear committed to the project.*

Reviewer TR2 *This proposal does satisfy Objective or Metric requirements and is technically feasible.*

Reviewer TR3 *Otter Tail Power provided on of the most thorough applications describing use of technology to address electrical outages and accounting for all requirements. The outage data provided indicate the priorities are aligned properly.*

North Dakota Transmission Authority
North Dakota Industrial Commission

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| Project Timeline | 23 |
| Project Budget | 23 |

BIL 40101(d) Application

Project Title: Next-Generation Grid Resiliency

Applicant: Otter Tail Power Company

Date of Application: November 20, 2023

Amount of Grant Request: \$4,432,088

Total Amount of Proposed Project: \$11,177,647

Duration of Project: 2 years

Point of Contact (POC): Mike Riewer

POC Telephone: 218-739-8565

POC Email: mriewer@otpc.com

POC Address: 215 S Cascade Street,
Fergus Falls, MN 56537

Applicant Description

Applicant: Otter Tail Power Company

Entity Type: Electric Grid Operator, Electricity Generator, Transmission Owner or Operator, and Distribution Provider

Corporate Structure: Corporation; parent company of Otter Tail Power Company is Otter Tail Corporation

Number of North Dakota customers served: 59,153

Average population of North Dakota towns served: 382

MWh delivered or sold annually in North Dakota: 2,296,189 MWh

Distribution Line (primary and secondary) in North Dakota: 3,684 miles

Transmission Line (primary and secondary) in North Dakota: 2,816 miles

Otter Tail Power Company (OTP) has been providing electricity to rural and tribal communities since 1909. Our vision is growth and success—for our company and the rural communities we serve. We collaborate and prosper through responsible, resourceful action, while balancing community, economic, and environmental commitments. Our customers have trusted us to power their lives for more than a century. As our customer needs continue to evolve, we evolve as well by transitioning to new technologies to help us deliver reliable, cost-effective, and environmentally responsible power for decades to come.

Our company and our employees are reflections of the rural areas and customers we serve. We live, work, and invest in our communities alongside our customers. Our service area has an average population density of two customers per square mile. Rural households have a median energy burden of 4.4%, compared to the national burden of 3.3%. Rural low-income households are even worse off, shouldering an average energy burden of 9% - almost three times greater than the burden faced by their higher-income counterparts.¹ Today, electric outages have a disproportionate impact on rural communities due to the extended response time for our crews to locate the outage and make repairs. This means that improved grid resiliency, like those enabled through this grant, will have a direct, outsized impact on improving energy equity for citizens in these rural communities. Access to funding through this grant will allow us to deploy the latest grid technology to continue investing in improved resiliency and reliability but do so much more cost effectively and with less impact to customer rates.

Project Description

We're excited to propose **Next-Generation Grid Resiliency (the Program)** for funding consideration by NDTA. The Program will provide increased awareness of grid conditions and enable new and more efficient processes, allowing us to reduce the magnitude and duration of grid outages caused by major disruptive storm and non-storm events. It will also increase grid and customer resiliency by reducing the frequency and impacts of grid outages. By taking

¹ Rural Data Resources for State Energy Planning and Programs. National Association of State Energy Officials. Published May 2020. www.naseo.org

advantage of grant funding, we can lower the costs of these grid modernization enhancements for customers and continue to provide low-cost energy access to disadvantaged and underserved rural communities. Lastly, these funds will help accelerate the maturation of new technology components leveraged to improve grid resiliency.

Four components make up Next-Generation Grid Resiliency: Pole Integrity, Preventative Vegetation Management (VM) with an Intelligent Vegetation Management System (IVMS), Drone and AI-Enhanced Transmission Line Inspections/Repairs, and Advanced Substation Assessments/Repairs. Each component includes assessment, prioritization of findings, completion of resulting mitigation work and a catalogue of future resiliency mitigation opportunities.

Pole Integrity – Pole integrity is a critical component in providing reliable and resilient electric service for our rural customers. We have ~50,000 transmission poles and ~80,000 distribution poles in North Dakota. Our distribution pole infrastructure is, on average, around 45 years old and our transmission pole infrastructure is, on average, around 50 years old. Additional testing and repair of poles would make the pole infrastructure across our territory more resilient to weather events. Through this grant, we will increase the number of wood poles inspected by over 60%, prioritize most critical poles for inspection, expand pole data collection, and remediate defective poles. Expanded data collection, such as soil type, soil condition, treatment type, and pole material, will inform future pole integrity programs and improve the economics of future investments. This will allow us to install the right pole in the right place at the right time, improving integrity today and in the future through smart pole management.

A recent innovation in pole integrity is the deployment of spatial-based software, which will help shorten pole remediation timeframes as well as simplify and streamline all stages of geospatial data processing. Conducting spatial analytics at-scale helps our engineers and maintenance personnel visualize and explore clearance to ground/conductors, automatically detect asset risks (e.g., pole-lean, cable-sag) and non-compliant building structures in rights-of-way and identify and correct missing assets. Otter Tail will be using this spatial-based software as part of the project.

In addition, we have a large high-voltage transmission line in North Dakota that utilizes direct-embed galvanized steel structures that were first generation at the time of their installation. These structures are now over 20 years old, and the ground protectant and ground line condition should be inspected. This grant will allow us to assess the ongoing integrity of these structures critical to resiliency in North Dakota and make the most cost-effective mitigation actions that contribute to increased grid resiliency. Our partner, EXO, who is an industry leading steel pole inspection contractor utilizing the latest technology in the industry, will perform these inspections.

Preventative Vegetation Management and IVMS – Vegetation Management (VM) has a direct and pronounced effect on reliability and resiliency for North Dakota residents. Management of vegetation is complicated by the nature of vegetation ownership and other values it may bring

customers (i.e., weather protection, shading, and esthetic value). Our VM program currently operates on a roughly five-year cycle for distribution feeders (consistent with industry standards) and utilizes an annual inspection review process for transmission assets. We are focused on improving our current program to develop an optimal and more precise preventative trimming program for both transmission and distribution rights of way to achieve the best spend for the best resiliency. To accomplish this, we will invest in an Intelligent Vegetation Management System (IVMS). Applying data analytics and modeling to vegetation management allows us to transform the way we approach vegetation management, ultimately improving our resiliency. Access to grant funding will allow us to more affordably make the upfront investment required for an IVMS to then deliver ongoing reduction in disruptive events for our customers.

For IVMS, we will partner with AiDash, who provides utilities with satellite- and artificial intelligence-powered tools for managing geographically distributed assets. AiDash uses high-resolution, multispectral, and synthetic-aperture radar (SAR) data from the leading satellite constellations that are fed into its proprietary artificial intelligence (AI) models to make timely predictions for operation and maintenance activities. These AI models empower AiDash's applications like Intelligent Vegetation Management System (IVMS), which enable efficient planning, prioritization, execution, review, and audit of VM activities using satellite analytics at scale.² Rather than reviewing circuits cyclically for vegetation threats, IVMS predicts threats based on growth observed from satellite imagery and then empowers us to precisely target the most critical areas for trimming in a timely fashion. This eliminates the cost associated with inspecting non-threatened assets and allows us to reallocate funds to other areas of the network. This precise measurement and prioritization of vegetation management risks improves reliability beyond what is possible with traditional inspection and planning methods and technologies. Output from the AiDash tool will include a prioritization of VM activities that result in the highest resilience benefit. We will then address these prioritized concerns throughout the remainder of the project.

² [Electric Utilities - AiDash](#)

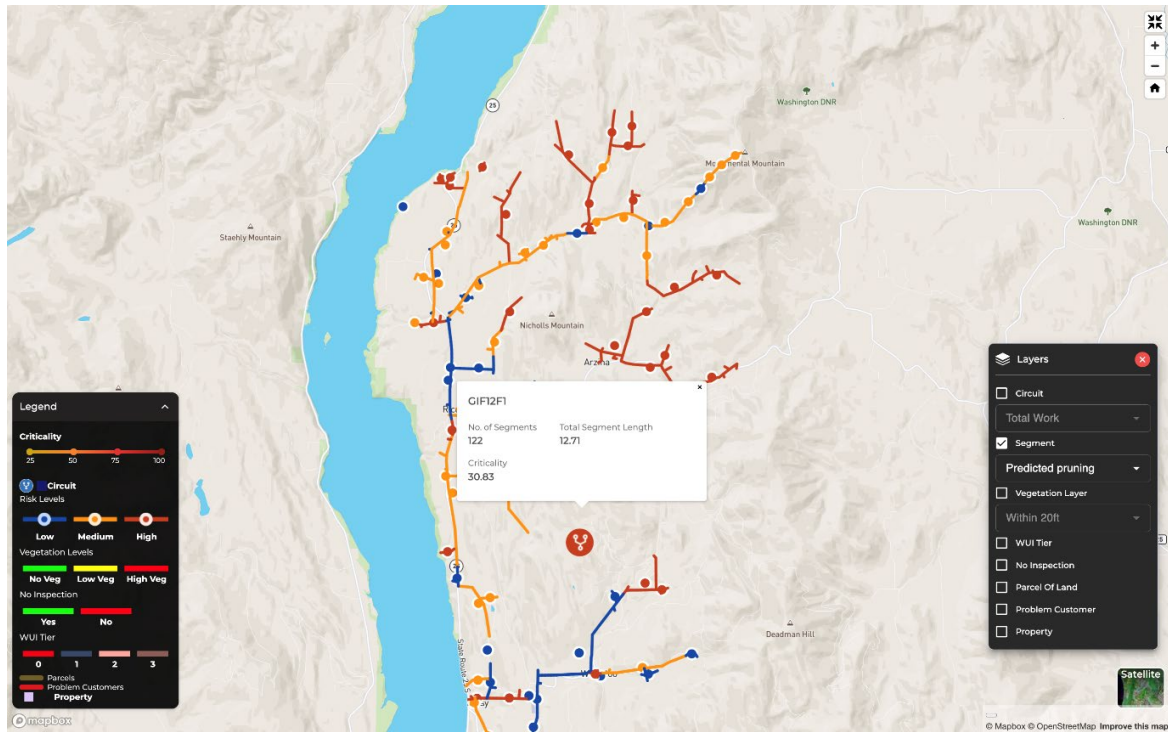


Image 1 – Illustrative IVMS: Segments Shown with Vegetation Risk Scores

Drone and AI-Enhanced Transmission Line Inspections/Repairs – Drone-based inspections are revolutionizing the way electrical infrastructure is monitored and maintained. Equipped with advanced sensors and cameras, drones can access hard-to-reach areas and can quickly and safely navigate complex structures, capturing high-resolution images and videos that provide valuable insights into the condition of the equipment. Drones also enable early detection of vegetation encroachment and emergency storm damage from snowstorms, tornados, or hail as well as other potential issues and hazards. Thermal imaging assessments and detailed visual inspections will empower us to make informed decisions, enhance operational efficiency, and ensure the uninterrupted flow of energy.³ Through this grant, we will partner North Dakota-based ISight Drone Services (ISight) with PLP Services to utilize drones for electrical inspections of up to 750 miles of transmission lines (approximately 1/4 of our total miles of transmission lines in North Dakota), prioritizing the 540 miles of high voltage lines as they have potential impact beyond just our customers in North Dakota. This will provide an overall view of asset conditions and help identify resiliency concerns. The inspection results will also include an actionable list of these categorized resiliency concerns to help prioritize and support asset maintenance. We will then address these prioritized asset maintenance concerns in year two of the project. These concerns could include things such as loose hardware, broken or cracked cross arms, corrosion on hardware, chipped or failing insulators, etc. These concerns can then be prioritized based on the reliability/resilience benefits and corrective actions planned accordingly.

³ [Power Line Inspections – ISight Drone Services](#)

In addition, our partners Exacter, Inc. and PLP Services have collaborated to create the world's first Partial Discharge (PD) detection deployed from a drone utilizing Exacter's first-generation Radio Frequency (RF) data collection technology. This technology is based on Exacter's existing PD systems which have historically been used from a helicopter or automobile. Together, PLP Services and Exacter have developed a first-of-its-kind method of equipping an industrial grade drone with the PD system enabling the collection of visual, thermal and PD data concurrently and enabling the identification of reliability concerns in a pre-failure condition. The Exacter system will be mounted on the ISight drone, and all survey data will be logged and mapped using GPS technology.⁴

Exacter technology is also at the forefront of pole fire mitigation because partial discharge current leakage from overhead equipment is the number one cause of pole-top fires.⁵ In 2021, Exacter was commissioned in Colorado to a 200-mile section of line that was averaging 10 pole-top fires per year. After performing inspections, the utility has only experienced one fire in the last two years. In 2023 in Nebraska, Exacter was commissioned to inspect transmission lines experiencing multiple fires the previous year. Since that inspection, the Nebraska utility has not experienced any fires in the areas inspected.⁶

Unlike new construction that 1) takes time to plan, 2) is expensive, and 3) requires significant time to execute, this solution provides rapid remediation answers that will impact the grid immediately. Exacter's ability to patrol large swaths of line in very short amounts of time provides fast identification of exactly where future power outages are more likely to take place. This means we can go to specific locations to address equipment in pre-fail condition – and therefore prevent power outages before they occur. Working together, PLP Services, Exacter and ISight will use this technology on a subset of transmission lines, focusing on areas that will have the most positive impact downstream for consumers. They will perform the transmission line assessment using patented technology and a multi-step process of problem identification and on-site verification of findings. By combining the capabilities of Exacter and ISight, we can uncover even more opportunities to improve resiliency for rural North Dakota customers. Once assessments are complete, we will begin mitigation work based on the prioritized findings.

Advanced Substation Assessments/Repairs – The fourth element of Next-Generation Grid Resiliency is Advanced Substation Assessments/Repairs. Working with Exacter, we will precisely identify and map failing hardware at distribution substations across North Dakota over a period of 2-3 months. Exacter will perform ~250 substation inspections using its ultrasonic technology that identifies partial discharge deterioration in the form of arcing, current leakage or tracking on substation components. During these inspections, Exacter will assess each substation utilizing scanning equipment to identify if hardware is malfunctioning and in need of repair. Inspection results will include an actionable list of categorized concerns to help prioritize and support asset maintenance. As an example, in a trial of a handful of substations around our

⁴ [Exacter | Transmission \(exacterinc.com\)](https://www.exacterinc.com)

⁵ [CIGRE Releases Survey Results on Pole Fire Causation and Mitigation | T&D World \(tdworld.com\)](https://www.tdworld.com)

⁶ Exacter

headquarters, Exacter was finding an average of one issue per substation. Each item found through the Exactor technology is a direct mitigation of a future failure and resiliency concern for customers. These issues included things such as failing insulators, transformer pre-failure, arrester, and bushing pre-failures. After the assessment, we will deploy work teams for fast replacement of problematic equipment. This remediation work will run, at a minimum, through the two-year duration of the project. We will address these prioritized asset maintenance concerns throughout the remainder of the funding period. In addition, we will also purchase substation scanning equipment for ongoing use by our technicians. We will then scan each substation on an annual basis for continuous reliability or resiliency improvements and preventative maintenance. Substations are the heart of the delivery system, and this component of the Program will ensure optimal reliability and resilience of these critical components.

The four components of Next-Generation Grid Resiliency work together to improve resiliency for rural customers across North Dakota. Through this grant, we will be addressing the top causes of outages, according to the Edison Electric Institute 2022 reliability survey. This includes #1 vegetation (20%), #2 overhead equipment (14%) and #3 weather, not lightning (9%). The Program also addresses outages caused by overhead conductors, which account for another 5% of outages. Combined, these four causes account for 48% of outage caused for all interruptions.⁷ We are targeting a 10%-15% improvement in SAIDI⁸ over the two-year duration of the program. We will also track and report the number of VM, substation and transmission line mitigations and the associated avoided customer minutes of interruption by preventing those future interruptions.

⁷ Edison Electric Institute, 2022 Reliability Survey Report. Published September 2023.

⁸ SAIDI System Average Interruption Duration Index. It is the minutes of non-momentary electric interruptions, per year, the average customer experienced. [eia.gov](https://www.eia.gov)

USA Total Number of Outage Causes, Average Number of Outage Causes, and Average Percentage of Outage Causes for All Interruptions.

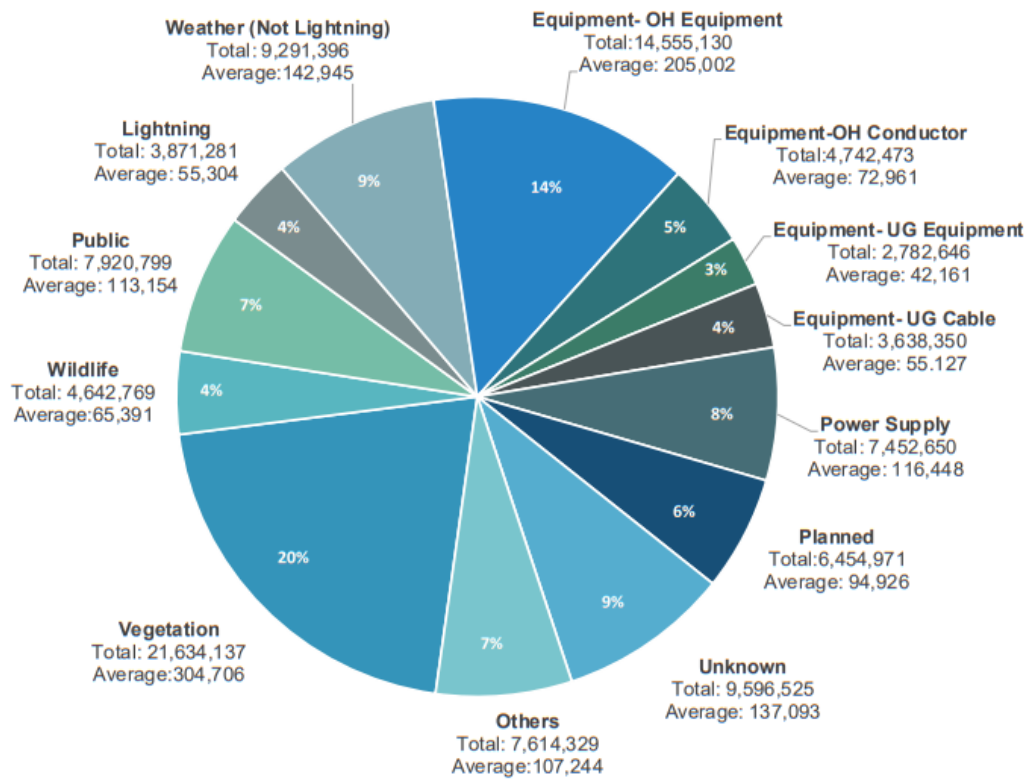


Image 2 – USA Total Number of Outage Causes, Average Number of Outage Causes, and Average Percentage of Outage Causes for All Interruptions.⁹

Cost/Benefit Analysis – Next-Generation Grid Resiliency is expected to reduce the frequency and/or the magnitude and duration of grid outages. We are estimating SAIDI and CAIDI to improve 10% over the lifetime of the program. Through the DOE’s Interruption Cost Estimate (ICE) Calculator and the Estimated Value of Reliability Improvement formula¹⁰ and the Estimated Value of Reliability Improvement formula we determined the customer cost benefit of the Program. With the estimate of improving SAIDI and CAIDI by 10%,¹¹ we are expecting to provide an estimated net benefit of \$30M.

Background and Experience – We’ve recently deployed several significant transmission and generation projects. These complex projects have informed our processes for selecting contractors, securing access to equipment, and ensuring supply chain readiness for future projects. The program components are generally part of our regular business practices, and we

⁹ Edison Electric Institute, 2022 Reliability Survey Report. Published September 2023.

¹⁰ <https://icecalculator.com/home>

¹¹ The calculation included an estimated component lifetime of 25 years, weighted for the average of each component relative to the total budget.

have access to the necessary labor, contractors, and suppliers to ensure project completion. Execution of the Program will require both our and vendor equipment. We have existing vendor agreements with partners who have demonstrated the required capabilities. These agreements can be expanded to support the anticipated program needs. We also have processes for the sourcing and screening of suppliers. Our suppliers are always ready to respond, especially during extreme weather events; this is ensured through our alliance agreements with many of our key suppliers. The vendors listed below have been trusted partners for many years. These relationships can be further expanded to support implementation of the Program.

| Vendor | Experience Summary |
|-------------------------------------|---|
| Carr’s Tree Service ¹² | Established in 1974 Carr’s Tree Service is a member of the International Society of Arboriculture (ISA) and Tree Care Industry Association (TCIA) with ten ISA Certified Arborists on staff. Staff are highly skilled in all areas of the tree service industry and are certified line clearance tree trimmers. |
| Jacobsen Tree Experts ¹³ | Jacobsen Tree Experts has over 56 years of experience in utility line clearance and residential work, and 16 years in disaster response. |
| Central Applicators ¹⁴ | Central Applicators provides VM options for utilities, municipalities, counties, and townships. They invest in the latest innovations in herbicide applications and formulations, VM and restoration equipment, as well as best practices in the fields of invasive species control and utility arboriculture industry. |
| Davey Tree Group ¹⁵ | In business since 1880, Davey has become one of the largest employee-owned companies in North America and will provide vegetation management services. |
| AiDash ¹⁶ | AiDash is a vertical SaaS company enabling satellite-powered vegetation management and IVMS. |
| Asplundh ¹⁷ | As full-service utility partner, Asplundh brings experienced personnel, specialized equipment, innovative technology, and logistical resources to execute successful vegetation management programs. Asplundh has been in business for 95 years. |
| Wright Tree Service ¹⁸ | With a robust history dating back to 1933 and employee-owned since 2002, Wright Tree Service is one of the largest vegetation management contractors in North America. Wright Tree Service has more than 4,000 employees across 16 geographic divisions. |

¹² <https://www.carrstreeservice.com/contact/>

¹³ <https://jacobsentree.com/>

¹⁴ <https://www.centralapplicators.com/about>

¹⁵ <https://www.davey.com/davey-resource-group/>

¹⁶ <https://www.aidash.com/>

¹⁷ <https://asplundh.com/>

¹⁸ <https://www.wrighttree.com/>

| Vendor | Experience Summary |
|--|---|
| EXO ¹⁹ | EXO has spent decades developing best practices for every inspection method, material type, and repair technique executed on poles and towers. EXO offers engineering and technical expertise, inspecting steel poles, towers, and concrete & composite structures to diagnose and repair structural defects. |
| Thomasson Company ²⁰ | A utility wood pole supplier, Thomasson Company has been in business for over 100 years. They have a National Women’s Business Enterprise (WBE) Certification from Women’s Business Enterprise National Council (WBENC). |
| Davey Tree Group ²¹ | Davey Resource Group, providing solutions to utilities for more than a century, uses cutting-edge technology to provide comprehensive joint-use pole management and GIS inventory and verification services in a timely manner. |
| Border States ²² | Headquartered in Fargo, ND, Border States is a distributor of underground cable/associated parts, distribution poles, overhead insulators/hardware, and more. Started in 1952, they are the sixth largest electrical distributor and one of the largest 100% employee-owned companies in the US. |
| National Strand Products, LP ²³ | WBENC Certified World Class producer of Guy, Static/OHGW, Messenger and other types of stranded wire products used internationally for support, safety, and security. |

| Vendor | Experience Summary |
|-------------------------------------|--|
| ISight Drone Services ²⁴ | Since 2011, North Dakota-based ISight Drone Services provides remotely piloted vehicle operations to agricultural, critical infrastructure, wildlife management, insurance, and emergency services clients to unlock the value and efficiency of collecting data and imagery with unmanned aerial vehicles. ISight Drone Services has facilities/offices in Grand Forks, Fargo and Watford City, North Dakota (and Minneapolis, MN and Houston, TX) and are geographically positioned to provide timely support for inspection services for our service areas in North Dakota. |
| PLP Services ²⁵ | PLP Services provides safe and reliable drone inspection services for utility assets including transmission and distribution power lines, substations, and generation facilities. By utilizing PLP's 70+ years of industry experience, their Inspection Services solution provides the expertise and knowledge needed to capture, analyze, and assess the condition of utility assets. |

¹⁹ <https://exoinc.com/field-service-repair>

²⁰ <https://thomassoncompany.com/>

²¹ <https://www.davey.com/davey-resource-group/>

²² <https://www.borderstates.com/>

²³ <https://www.nationalstrand.com/>

²⁴ <https://isightdrones.com/about-us/>

²⁵ <https://plp.com/inspection-services>

| | |
|-----------------------|--|
| Exacter ²⁶ | Exacter®, Inc. is an Industrial Internet of Things (IIoT) company that focuses on electric utilities worldwide. Exacter’s multiple patents and algorithms create a platform technology for providing unique visibility into grid health, identifying areas of safety and system risk, and informing asset management and intelligence-based reliability initiatives. |
|-----------------------|--|

Community Benefits – We've demonstrated a strong commitment to improving rural communities by engaging local stakeholders, bolstering workforce development programs, and making sustainability efforts that focus on reducing energy burden. Through these efforts, we have established successful relationships with tribal nations, community groups, local colleges and universities, non-profit organizations, and small businesses that deliver meaningful results to our communities. Our plan illustrates how Next-Generation Grid Resiliency incorporates the community-focused goals of the NDTA to 1) support quality jobs and workforce development; 2) advance diversity, equity, inclusion, and accessibility (DEIA); and 3) contribute to Justice40, economically disadvantaged and/or rural communities.

Approach to support quality jobs and workforce development

We’re dedicated to creating quality jobs within the communities we serve and have existing programs for this purpose. Our employees receive competitive wages that exceed local average wages, healthcare benefits, paid time off, and retirement benefits and are protected under the National Labor Relations Act (NLRA). Employees can pursue advancement or reskill within our employee self-improvement program, which covers 80% of tuition and materials for approved post-high school training. We also attempt to fill 80% of management positions internally. We are planning for a 10% growth in line staff in preparation for continued focus on infrastructure programs as well as expectations of upcoming retirements throughout the company over the next few years. For line workers, as an example, this timeline allows us to advance new hires from apprenticeship to journeyman prior to retirement of existing journeyman workers. Through this grant, we will fund one new Reliability Engineer position, two two-year engineering internships, and one grant coordinator, for a total of four direct jobs created—a significant investment. We will also utilize OTP employees to implement the remediation work identified during assessments, for a total of eighteen Full Time Equivalent (FTEs) retained jobs, with the majority of these FTEs residing in North Dakota. A retained job is defined as an existing position that is now funded by the Program for which the wages or salaries are either paid for or will be reimbursed by the Program.²⁷ We will also have roughly two hundred lineworkers and staff trained to maintain the investments in resiliency made through this grant funding.

Indirect jobs are supported by this grant as well. Recruitment and retention of talent is paramount to ISight’s ability to scale and operate effectively. ISight has been able to create a strong pipeline of talent from the University of North Dakota John D. Odegard School of Aerospace Sciences, providing quality, ready for work, employees – minimizing ISight’s training

²⁶ <https://www.exacterinc.com/about-us>

²⁷ Calculation of job creation through recovery act funding. [energy.gov](https://www.energy.gov)

requirements and putting University of North Dakota graduates to work in a new and emerging industry to work in an exciting technology field headquartered out of North Dakota. To meet the needs of this project, ISight will be adding three new full-time employees to its roster. These three new employees will be matched with existing (retained) senior employees of ISight to mentor and train the new employees in the process of collecting utility data (poles, lines, and potential right-of-way data) that will be ingested by PLP and their robust analytics software to provide near-real time actionable data that can be used effectively by our engineers and staff. There will also be a new position at PLP Services, who anticipates hiring at least one additional data analyst to support the Program. Across our partners we anticipate a minimum of five indirect jobs created through the Program. Indirect jobs are defined as jobs created or retained at material suppliers, who make the materials used in the Program, or at central service providers, or an employee non-directly charged to the Program.²⁸ Furthermore, there are a minimum of thirty-six indirect Full-time equivalent (FTE) jobs retained through this grant funding (that is existing positions that will be funded by the Program for which the wages or salaries are either paid for or will be reimbursed by the Program).

Between direct and indirect jobs, we anticipate this grant to create nine positions and retain forty-four positions. Beyond these jobs, there will also be induced jobs resulting from this grant investment. An induced job is defined as a job created or retained elsewhere in the economy as a result of the Program that supports projects/activities not directly charged to supported projects/activities.²⁹ For example, our vendors will be indirectly supporting jobs in North Dakota communities as they travel across North Dakota to complete the inspection services. Based on the Economic Policy Institute employment multipliers for the US economy in the utility sector, the Program is expected to generate 18 induced jobs.³⁰

Table 4:

| Jobs Retention and Creation | | | | |
|-----------------------------|---------|----------|---------|-------|
| | Created | Retained | Induced | Total |
| Direct | 4 | 18 | | 22 |
| Indirect | 5 | 36 | 18 | 49 |
| Total | 9 | 54 | 18 | 71 |

We also have a strong history of labor support including an ongoing relationship with the International Brotherhood of Electrical Workers (IBEW), which represents about half of our employees. IBEW has approximately 775,000 active members and retirees who work in a wide variety of fields including utilities, construction, manufacturing, railroads, and government. As union members, the IBEW bargains collectively with employers over wages, benefits, and

²⁸ Calculation of job creation through recovery act funding energy.gov

²⁹ Calculation of job creation through recovery act funding energy.gov

³⁰ [Updated employment multipliers for the U.S. economy | Economic Policy Institute \(epi.org\)](http://www.epi.org). Induced jobs includes jobs supported by respending of income from direct jobs and supplier jobs, as well as public-sector jobs supported by tax revenue. Based on 4 direct jobs created from the Program.

and engaging employees to assist managers in attracting and retaining talented employees and 5) engaged recruiting firms that link our job openings to multiple channels targeted at reaching diverse candidates.

We know that diversity of thought and experience is critical to our ongoing success, providing our essential service, and being a great place to work. In 2023, we conducted DEIA training for all employees, with a goal of 95 percent completion. We are currently on track to attain this goal. Through the Program, we will also endeavor to increase the volume of work that will flow to minority enterprises including those that hold National Women’s Business Enterprise (WBE) Certifications from Women’s Business Enterprise National Council (WBENC). We will track the number of contracts and/or dollar value awarded to businesses that are principally owned by women, minorities, and/or veterans.

Contribute to Justice40 Initiative/Disadvantaged/Rural Communities

Part of our mission is to improve the quality of life in the areas in which we do business, including in disadvantaged communities. Approximately 8% of our North Dakota system is in a Justice40³⁴ area as demonstrated in the map below (Image 1). Furthermore, our service area has approximately 527 miles of lines, 8,500 distribution poles, 3,000 transmission poles, and 20 substations located within J40 communities in North Dakota.

³⁴ The Justice40 Initiative represents a goal of Federal Government that 40 percent of the overall benefits of certain Federal investments flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution. <https://www.whitehouse.gov/environmentaljustice/justice40/>

Otter Tail Power North Dakota Service Area

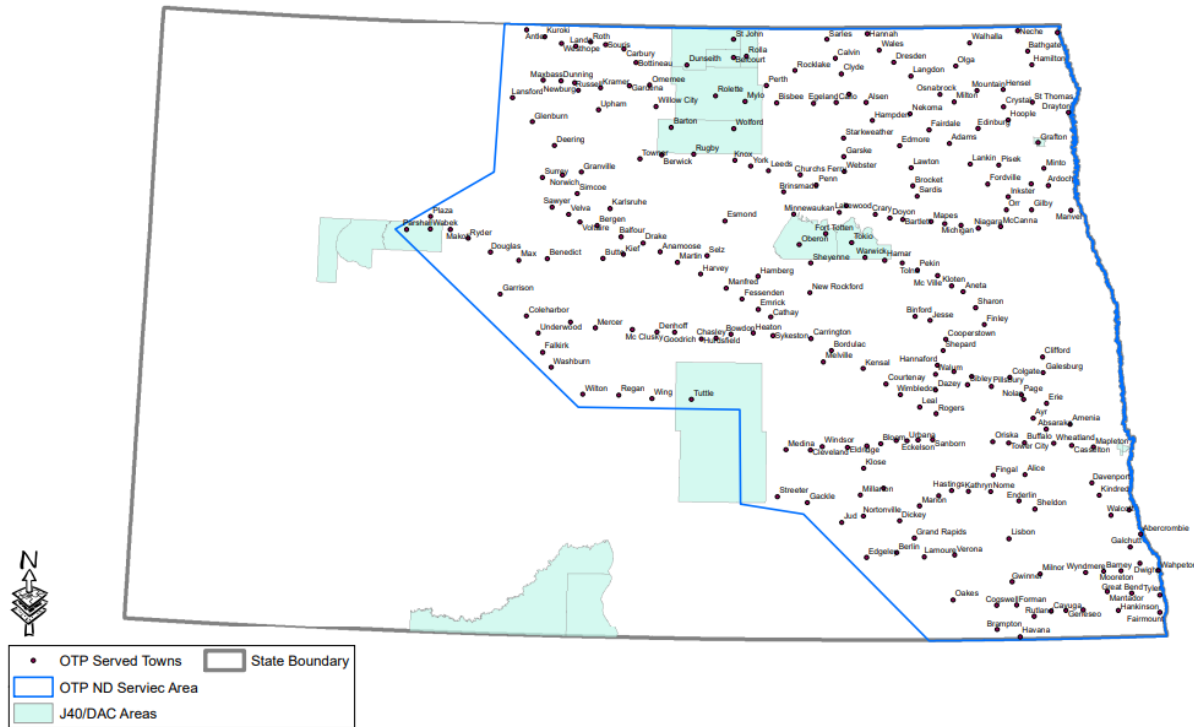


Image 3 – Otter Tail Power Company North Dakota Service Area Justice40 Tracts

It is also important to understand the rural makeup of the communities we serve in North Dakota. As the second smallest investor-owned utility in the United States, we serve 59,153 customers across 257 North Dakota communities, with an average population in those communities of only 382 people. Only 2 towns in our ND service area have a population of more than 8,000 people. Another way to understand the rural nature of our North Dakota service area is by looking at Rural-Urban Commuting Area (RUCA)³⁵ codes, where 10 denotes the most rural areas and 1 denotes metropolitan area cores. Of the 257 ND communities we serve, 151 are designated as a 10 (59%), 8 are designated as a 2, none have a designation of a 1 and 16 have no designation. This rural composition provides a strong opportunity for the NDTA to reach a historically underserved population of rural Americans.

Another way this grant will benefit rural communities is through in-class educational opportunities. In collaboration with our partners, including ISight, we will demonstrate the next-generation resiliency technologies to middle school students, such as bringing inspection drones into classrooms for students to get firsthand STEM education.

Environmental Impacts – We are not anticipating the program will create environmental impacts. We have an experienced environmental team who will work to mitigate environmental impacts alongside our engineers and line workers. Through this use of drones and satellite

³⁵ [USDA ERS - Documentation](#)

imaging, we will limit environmental impacts during our inspections and therefore the overall program. Throughout the mitigation phase of work the only construction conducted within the program will be pole replacements. Within our application submission is the Department of Energy's Environmental Questionnaire which outlines Next-Generation Grid Resiliency environmental impacts within our North Dakota service area.

Standards of Success

Next-Generation Grid Resiliency meets the three objectives laid out by the North Dakota Transmission Authority.

Objective 1: Reduce the magnitude and duration of grid outages caused by major disruptive storm and non-storm events. Each element of this project provides a direct mitigation to the magnitude and duration of grid outages caused by major disruptive storm and non-storm events.

Maintaining a well-inspected and repaired infrastructure means that we are better prepared for major disruptive events. For example, regular inspections of transmission and distribution poles identify potential issues such as structural weaknesses, rot, corrosion, or damage. Addressing these problems proactively through repairs or replacement helps prevent pole failures during adverse weather conditions, reducing the magnitude and duration of outages. In addition, by keeping trees and vegetation clear of power lines, we can reduce the risk of trees falling onto power lines during storms or high winds, which is a common cause of power outages. In fact, according to Edison Electric Institute 2022 Reliability survey, vegetation is the number one cause of outages, accounting for 20% of all outages.³⁶

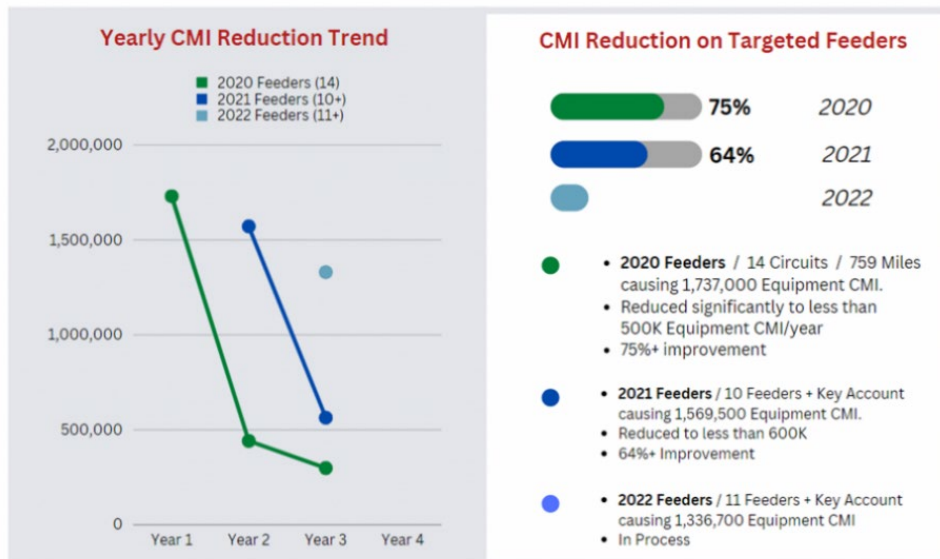
When a major storm or non-storm event occurs, strong winds and heavy precipitation increase the likelihood of trees and branches falling onto power lines, poles, and other grid components. Proactive vegetation management reduces the likelihood of these physical obstructions and acts as a buffer during major storms decreasing the magnitude of grid outages. This increased resilience means that even when storms occur, the grid is better equipped to withstand them without experiencing outages. Fewer obstructions and hazards near power lines also make it safer for workers to assess and repair damage, which can speed up the restoration process. In addition, when outages do occur, they are typically of shorter duration because the grid infrastructure remains relatively undamaged. Utility crews can restore power more quickly when there are fewer obstructions and hazards to address. When storms or other disasters strike, the grid is also less likely to experience extensive damage, and any necessary repairs can be completed more quickly as recently repaired or replaced infrastructure has a higher likelihood of withstanding disruptive events.

Drones also allow our engineers and AI systems to provide accurate assessments of the current state of transmission lines. This method of assessment is of higher quality vs traditional boots-

³⁶ Edison Electric Institute, 2022 Reliability Survey Report. Published September 2023.

on-the-ground methods. This higher quality assessment enables us to make informed decisions, take preventive actions, and respond more effectively to issues before they arise. AI-driven insights can also lead to targeted upgrades and improvements in the grid's overall resilience. For example, drones and AI can identify areas where reinforcement is needed, such as cracked hardware not visible from the ground, making the grid more robust in the face of severe weather as these pre-failing components are likely the first to fail in adverse weather. By mitigating these issues, the system will be able to better withstand future weather events. Drone-based line inspections can also identify faults and failures in the transmission lines more swiftly in comparison to ground patrols, which is critical for reducing outage durations. The image below highlights results from a previous Exacter pilot implementation, showing a positive impact on customer minutes of interruption.

Image 4 – Customer Minutes of Interruption from Exacter Pilot Implementation with US utility.³⁷



Substations are the heartbeat of the electrical delivery system and substation assessments can help identify areas of the substation that are nearing failure and may be vulnerable to adverse weather conditions. This information will lead to targeted improvements which increase the substation's resilience to storms and other disruptive events.

The insights gained from The Program assessments enable us plan for and complete needed repairs or replacements in advance, which shortens outage durations and minimizes their impact. According to the DOE, the leading cause of electric outages in North Dakota (2007-2017) was faulty equipment or human error.³⁸ Furthermore, infrastructure failure has a disproportionate impact on rural communities due to the response time for repair crews, which can be longer due to the distances that crews must travel to conduct repair work. Remote terrains and difficult landscapes [also] pose challenges for repair crews, delaying restoration

³⁷ Exacter, 14 November 2023

³⁸ [North Dakota Energy Sector Risk Profile](#)

efforts.³⁹ This means that proactive inspection and replacement in these areas, funded through this grant, will have an outsized impact on members of these disadvantaged rural communities.

Table 5:

| Objective 1 Standards of Success | Metrics | Project | Measurement |
|---|--|-----------------|--|
| Objective 1: Reduce the magnitude and duration of grid outages caused by major disruptive storm and non-storm events. | Magnitude of interruptions to the critical customers (for storm and non-storm events, separately). | Overall Program | CAIDI excluding major event days and CAIDI including major events days |
| | Length of time for restoration/recovery after extended outages. | Overall Program | CAIDI including major events days |
| | Number of personnel trained to manage the resilience project once it is finished. | Overall Program | Approximately 200 personnel |

Objective 2: Reduce the frequency and impacts of grid outages caused by major disruptive storm and non-storm events. Each element of this project provides a direct mitigation to the frequency and impacts of grid outages caused by major disruptive storm and non-storm events.

Regular inspections and repairs of transmission and distribution poles, substations and transmission lines help identify and address potential issues before they lead to outages. Using data-driven approaches for prioritizing maintenance efforts also reduces the frequency of outages as potential issues are identified and addressed in advance. Reinforcing or replacing damaged or aging infrastructure with stronger materials improves the overall structural resilience of the grid. For example, when we identify woodpecker or fire-damaged poles they are replaced with ductile iron, which improves resiliency to wildfires and is resistant to woodpecker damage, both of which are prevalent in rural areas. This means the grid is better equipped to withstand the stresses and forces of major storms, reducing the likelihood of pole failures and outages during such events. When a storm moves through sections of the power grid, the lines and equipment that are in the worst condition are the most impacted – and experience the most outages. Properly maintained grid infrastructure is less susceptible to damage during storms, decreasing the likelihood of outages occurring during an extreme weather event. AI algorithms can also prioritize maintenance efforts by identifying critical areas that are most likely to be affected by adverse weather conditions. This ensures that maintenance resources are directed where they are needed most, reducing the likelihood of outages. Preventive maintenance also reinforces grid infrastructure, reducing the frequency of outages

³⁹ [Power Outage Restoration Challenges and Solutions in Rural Areas \(utilitiesone.com\)](https://www.utilitiesone.com)

caused by equipment failures. Quicker restoration of power reduces costs associated with emergency repairs and extended outage periods.

Our service areas are subject to natural disasters such as severe snow and ice storms, derechos, tornadoes, flooding, and fires. Extreme weather events within our service area directly affect our infrastructure, causing disruption in service to customers and result in repair or replacement costs due to downed wires and poles or damage to our operating equipment.⁴⁰ Next-Generation Grid Resiliency helps us strategically prepare for these weather patterns. During extreme weather, there is an increased likelihood of vegetation encountering overhead power lines, such as a tree branch falling on a power line during a storm, or a tree blown into lines due to high winds. By improving and expanding VM practices with this grant, we can identify and remove potential hazards across more of our remote service territory before they cause problems, thus reducing this likelihood. A similar AiDash partnership with National Grid saw a 5% improvement in SAIFI.⁴¹ Vegetation can also pose a fire risk if it meets power lines, especially during dry or windy conditions. By removing and/or maintaining vegetation, we can help reduce the risk of wildfires. Applying data analytics and modeling, and adding data sources such as satellites, to VM allows us to transform our VM approach, moving from a static to a dynamic planning model, ultimately improving our climate resiliency.

There are also intangible benefits for restoration crews that stem from this grant investment. As the duration of storm restoration work is shortened because of improved resiliency, employees benefit from more stable hours and fewer nights away from home. This also allows workers to focus more on preventative work rather than emergency restoration work. Storm restoration can be some of the most dangerous work a lineworker performs due to the weather conditions that exist during restoration. As such, having a more reliable and resilient system that is less prone to severe weather reduces the likelihood and frequency that our lineworkers will work in treacherous conditions. As utilities often operate in hazardous environments, such as remote or difficult-to-access locations and high-voltage areas, sending human inspectors into these environments poses significant risks. Drones eliminate the need for personnel to physically reach these areas, mitigating the potential for accidents and injuries. Slips, trips, and falls are the leading cause of workplace fatalities according to OSHA reporting. Drone technology drastically reduces the opportunities for exposure to these risks as drone operators virtually never have to leave the area where the drone is launched from and can cover as much as two miles of right-of-way from a single location. There are still further beneficial aspects of preventative work relative to emergency restoration. We have estimated, based on pole replacement numbers, that storm work would be 25% to 50% more expensive than the same work on a scheduled basis. Shifting some emergency restoration work to preventative work through the Program can have a positive fiscal impact on us and, in turn, our customers.

⁴⁰ Otter Tail Power, 2021 Annual Report. [Annual Report and Proxy Statement | Otter Tail Corporation](#)

⁴¹ [How National Grid Improved Grid Reliability with Data-Driven Insights from Space \(aidash.com\)](#)

Table 6:

| Objective 2 Standards of Success | Metrics | Project | Measurement | |
|--|---|---|---|--|
| Objective 2: Reduce the frequency and impacts of grid outages caused by major disruptive storm and non-storm events. | Frequency of interruptions to critical customers. | Overall Program | SAIFI tracked over the course of the project. | |
| | Qualitative assessment of the physical durability of the grid (how much the grid can withstand: both initial and frequent disruptions of 1 hour or more). | Overall Program | Total number of interruptions of one hour or more in the two years prior to the project mitigation, 2023 and 2024 relative to the second year of the project, 2025. | |
| | Qualitative assessment of the grid operational flexibility (how adaptable the grid is in terms of damage). | Preventative Vegetation Management and IVMS | | Miles of vegetation management completed annually. |
| | | Pole Integrity | | Number of poles repaired or replaced as a result of pole integrity assessments. |
| | | Drone and AI-Enhanced Transmission Line Inspections/Repairs | | Dollars invested in transmission and distribution line mitigation work completed as a result of project. |
| | | Advanced Substation Assessments/Repairs | | Dollars invested in substation mitigation work completed as a result of project. |
| Restoration/recovery times after frequent outages of 1 hour or more. | Overall Program | CAIDI with outages under 1 hour removed from analysis. | | |

Objective 3: Implement grid modernization projects to develop energy solutions that provide lower-cost energy access to disadvantaged or underserved communities and promote energy sufficiency and energy justice in these communities while providing clean energy in alignment with the Biden Administration’s Justice40 Initiative. Renewable energy (RE) and distributed energy resources (DERs) that are installed and managed locally give disadvantaged communities the opportunity to meet the energy needs of their community, take control of their energy resources, and enjoy the long-term environmental and economic advantages of these resources. These initiatives not only offer a source of clean, local, renewable energy but also reduce energy costs, generating savings that can be reinvested into the community.

By proactively conducting grid assessments, we can identify and address potential issues before they lead to power outages. This means residents in rural and disadvantaged communities experience fewer and shorter outages, leading to more consistent access to essential services like heating, cooling, and medical equipment. In addition, a stable power supply supports local businesses, job opportunities, and community services. It can encourage economic growth and reduce vulnerability in disadvantaged communities. Proactive grid assessments can also help identify and address issues related to environmental impacts, such as reducing the risk of power line-induced wildfires, which can have a significant impact on communities.

Next-Generation Grid Resiliency also helps decrease energy burden in disadvantaged and rural communities. For example, by utilizing grant funding to make these reliability investments, we reduce the total project cost to customers by ~40% percent, reducing energy burden. Furthermore, a more resilient grid helps reduce repair costs resulting from weather events. This reduction in repair costs helps us keep rates low, resulting in a decrease in energy burden. A more resilient grid also reduces the need for backup power sources, which can be a significant burden for, or not accessible to, low-income households. During outages homeowners are likely to use portable gas generators to maintain their basic needs. Improving system reliability can help ensure that all members of the community have access to reliable electricity without experiencing frequent power outages, regardless of their ability to pay for backup power sources. We will utilize the Interruption Cost Estimation (ICE) Calculator to measure the economic costs of power interruptions to businesses and residences. According to Berkeley Lab, “the economic costs that power interruptions impose on businesses and residences are a critical consideration when making decisions that affect the future reliability and resilience of the electric power system. Based on more than 20 years of utility-sponsored surveys on the costs of power interruptions to customers, Berkeley Lab developed the tool through close partnerships with industry. To ensure its continued effectiveness, [they continue] to augment it with research on the latest methods for collecting and developing information on the economic consequences of power interruptions on businesses, residences, and society at large.”⁴²

Without this investment, customers in our service area could be at risk of reduced resilience due to the increasing number and intensity of weather events. While resiliency programs are standard for any utility, they are transformational for our small rural communities whose economies and wellbeing depend on reliability. Any mitigation or prevention of disruptive events has direct social and economic benefits to our customers. The Program will improve and enhance our current programs and improve the resiliency and reliability of service to the rural customers we serve. The Program will also provide key learnings and effective use cases that will benefit other small and rural utilities and communities in North Dakota. This grant will allow us to focus on enhancing the reliable service our customers depend on so they, in turn, can focus on growing the economies of rural America. With a more reliable and resilient grid we anticipate greater economic development for our service area. In fact, “energy is tightly linked to economic development. Higher levels of GDP are correlated with greater electricity use, access, reliability

⁴² [Economic Value of Reliability & Resilience | Electricity Markets and Policy Group \(lbl.gov\)](#)

and affordability.”⁴³ Our state, tribal, and local governments are often working towards increasing private sector investment and we will continue to be a partner in economic development for our communities.

Finally, we will promote engineering internships at schools that support disadvantaged, underserved and rural communities, including University of North Dakota and North Dakota State University.

Table 7:

| Objective 3 Standards of Success | Metrics | Project | Measurement |
|---|---|-----------------|--|
| Objective 3: Implement grid modernization projects to develop energy solutions that provide lower-cost energy access to disadvantaged or underserved communities and promote energy sufficiency and energy justice in these communities while providing clean energy in alignment with the Biden Administration’s Justice40 Initiative. | The number and type of RE/DER installations under grid modernization initiatives. | Overall Program | Total number of circuits with resilience increases that support RE/DER installations. |
| | The financial impact to households as a result of avoided outages. | Overall Program | The ICE Calculator will be used to calculate customer costs avoided from fewer outages. |
| | The number of workforce development programs developed for the disadvantaged/underserved communities. | Overall Program | Two workforce development programs; Engineering internship focused on resiliency and student educational programs. |
| | The number of energy businesses/jobs created for the disadvantaged/underserved communities. | Overall Program | Nine jobs will be created, and we will track the number of these jobs that are in DACs. |

The final standard of success is compliance. We intend to comply with each requirement outlined in the NDTA grant. This includes Research, Technology, and Economic Security (RTES), National Environmental Policy Act (NEPA) and Davis–Bacon Act (DBA). We will also ensure that RTES and DBA requirements flow down to all subcontractors. This program will involve the construction, alteration, maintenance, and/or repair of public infrastructure in the United States and we intend to honor the Buy America Requirements for Infrastructure Projects. For example, ISight has made a strong push to Build America, Buy America with the acquisition of American made drones including the Hybrid Project SuperVolo (Blountville, TN), the Freestyle Astro

⁴³ Jack, Kelsey. 31 March 2022. “How much do we know about the development impacts of energy infrastructure?” Mar 31, 2022. EMLab, University of California, Santa Barbara. Accessed 13 November 2023.

(Woodenville, WA) and the Watts Innovation Prism (Hunt Valley, MD). These aircraft are all NDAA (National Defense Authorization Act) compliant and provide reliable, industry tested aircraft that meet the rigors of industrial/commercial use for critical energy infrastructure.

Project Timeline

Next-Generation Grid Resiliency will be delivered in two phases. Phase 1 will consist of physical and analytical assessments and Phase 2 will focus on mitigation actions recommended from Phase 1. Our contractors listed above will complete all drone and AI work and analytical assessments within Q2-Q4 of 2024. Once we receive the assessments, we will start designing mitigation work and initiate the mitigation activities using internal resources. We will complete all project-funded mitigation work by the end of the second year of project funding.

Table 8:

| Program Timeline | 2024 | | | | 2025 | | | | 2026 | | | |
|--------------------------------|------|----|----|----|------|----|----|----|------|----|----|----|
| Program Components | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Annual Reporting | ★ | ★ | ★ | ★ | ★ | ★ | ★ | ★ | | | | |
| Quarterly Reporting | | | ★ | | | | ★ | | | | ★ | |
| AiDash IVMS | | | | | | | | | | | | |
| EXO Pole Inspections | | | | | | | | | | | | |
| ISight Drone T&D Inspections | | | | | | | | | | | | |
| Exacter Substation Assessments | | | | | | | | | | | | |
| Vegetation Management | | | | | | | | | | | | |
| T&D Pole Mitigation | | | | | | | | | | | | |
| Substation Mitigation | | | | | | | | | | | | |
| Internship | | | | | | | | | | | | |
| ISight Educational Demos | | | | | | | | | | | | |
| Community Engagement | | | | | | | | | | | | |

Project Budget

Next-Generation Grid Resiliency is estimated to be completed with a total budget of \$11,177,647. Our cost share will cover the mitigation costs (excluding vegetation management), 50% of the wood pole inspections, and the other costs (program reporting and administration, marketing, and auditing). Our cost share totals \$6,745,559, 60% of the total program budget. NDTA's cost share, \$4,432,088, 40% of the total program budget, will cover the remaining budget, including: contractor, vegetation management, personnel, and community benefits. Personnel costs are based on historic rates for these roles. These loaded rates include our payroll loading rate (63%) and capitalized administrative and general rate (25%) for a combined rate of 87% applied to the raw hourly rates. The payroll loading rate includes qualified pension expense; 401k match; 401k enhanced contributions; post-retirement medical; active medical less premiums paid by employees; active dental less premiums paid by employees; health savings account company

contributions; life and long-term disability (LTD) insurance premiums; post-employment LTD expense; workers compensation; taxable meals; vacation and vacation accrual; FICA and unemployment taxes; holidays and floating holidays; sick leave; and other miscellaneous lost time activity. The capitalized administrative & general (Cap A&G) rate includes all or a portion of the total calendar year account balances that indirectly support the initiation and completion of a self-constructed asset, specifically back-office personnel, in the following FERC accounts to determine the Cap A&G overhead rate: Administrative and General Salaries, Office Supplies & Expense, Administrative Expenses Transferred Credit, Outside Services Employed, Injuries and Damages (excluding Workers' Compensation), Regulatory Commission Expense, Duplicate Charges Credit, General Advertising Expenses, Miscellaneous General Expenses, Rents, Maintenance of Structures, and Maintenance of General Plant. Table 9 outlines the complete budget breakdown for the Program. An inflation rate of 3% was applied to all personnel costs for each year. It is important to note that we are not expecting any additional grant funding beyond the NDTA to support these critical resiliency efforts for North Dakotans.⁴⁴

Table 9: Next-Generation Grid Resiliency Budget

| Budget Category | Cost | Quantity | 2024 | 2025 | Total | Basis of Cost |
|-------------------------------|-------|----------|-----------|-----------|-----------|------------------------------|
| Contractors | | | | | | |
| Exacter | | | | | | |
| Substation Assessments | | | \$200,000 | | \$200,000 | Cost based on Exacter quote. |
| Transmission Line Assessments | | | \$250,000 | | \$250,000 | Cost based on Exacter quote. |
| ISight | | | | | | |
| Drone Assessments | \$518 | 750 | \$388,380 | | \$388,380 | Cost based on ISight quote. |
| PLP | | | | | | |
| Drone Assessments | | | \$309,685 | | \$309,685 | Cost based on PLP quote. |
| EXO | | | | | | |
| Steel | | | | \$200,000 | \$200,000 | Cost based on EXO quote. |
| Distribution (OTP Cost) | \$20 | 5000 | | \$105,060 | \$105,060 | Cost based on EXO quote. |

⁴⁴ Environmental review costs are not included within Table 9. If during award negotiations the NDTA or DOE determine OTP needs to complete an environmental review, OTP will comply and adjust the budget accordingly.

| | | | | | | |
|---|---------|------|-------------|-------------|-------------|---|
| Distribution (NDTA Cost) | \$20 | 5000 | | \$105,060 | \$105,060 | Cost based on EXO quote. |
| Transmission (OTP Cost) | \$20 | 4000 | | \$84,295 | \$84,295 | Cost based on EXO quote. |
| Transmission (NDTA Cost) | \$20 | 4000 | | \$84,295 | \$84,295 | Cost based on EXO quote. |
| AiDash | | | | | | |
| IVMS - Distribution | | | \$288,471 | | \$288,471 | Cost based on AiDash quote for 2,822 miles of distribution lines. |
| Mitigation | | | | | | |
| Vegetation Management | | | \$1,000,000 | \$1,000,000 | \$2,000,000 | Cost based on historic costs. |
| Exacter Devices | \$4,000 | 10 | \$40,000 | | \$40,000 | Cost based on Exacter quote. |
| Distribution Pole Mitigation | \$3,500 | 927 | \$1,622,250 | \$1,622,250 | \$3,244,500 | Cost based on historic costs. |
| Transmission Pole Mitigation (over 41.6 kV) | \$8,000 | 35 | \$139,664 | \$139,664 | \$279,329 | Cost based on historic costs. |
| Transmission Pole Mitigation (41.6 kV) | \$5,500 | 71 | \$195,800 | \$195,800 | \$391,600 | Cost based on historic costs. |
| Transmission Line Mitigation | \$2,000 | 750 | | \$1,500,000 | \$1,500,000 | Estimate per mile based on historic costs. |
| Substation Mitigation | \$1,500 | 265 | | \$409,425 | \$409,425 | Estimate per substation based on historic costs. |
| Community Benefits | | | | | | |
| Internships | \$7,000 | 2 | \$14,000 | \$14,420 | \$28,420 | Two Resiliency Internships for the duration of two years. |
| Personnel | | | | | | |
| Grant Coordinator (1) | \$64 | 1000 | \$63,730 | \$65,642 | \$129,372 | General Project Position with loaded rates. |
| Marketing Manager (1) | \$122 | 60 | \$7,336 | \$7,556 | \$14,891 | General Project Position with loaded rates. |
| Reliability Engineer (1) | \$103 | 2080 | \$213,554 | \$219,960 | \$433,514 | General Project Position with loaded rates. |

| Other Costs | | | | | | |
|-------------------------------|--|--|-----------|------------------------|--------------|---|
| Program Oversight & Reporting | | | \$300,000 | \$300,000 | \$600,000 | Cost for quarterly and annual reporting and program administration. |
| Annual Independent Audit | | | \$25,000 | \$25,750 | \$50,750 | CPA costs for Third Party Annual Audit |
| Marketing | | | \$20,000 | \$20,600 | \$40,600 | Historic costs for project printing/mailing |
| | | | | | | |
| | | | | Total Budget | \$11,177,647 | |
| | | | | OTP Cost Share | \$6,745,559 | |
| | | | | NDTA Cost Share | \$4,432,088 | |

Conclusion: Otter Tail Power customers depend on our ability to provide reliable and resilient electric service. According to the National Association of State Energy Officials and the USDA, our rural communities face higher rates of poverty⁴⁵ and high energy burden.⁴⁶ These inequities are exacerbated during electrical outages. Next-Generation Grid Resiliency will provide improved and equitable resiliency in our disadvantaged rural communities. Through preventative vegetation management and IVMS, Pole Integrity, Drone and AI-Enhanced Transmission Line Inspections/Repairs, and Advanced Substation Assessments/Repairs our electric grid will gain the resiliency needed to help mitigate the consequences of extreme weather events. This grant funding will enable us to accelerate these transformational investments for our customers and for North Dakota.

⁴⁵ [USDA ERS - Chart Detail](#)

⁴⁶ Rural Data Resources for State Energy Planning and Programs. National Association of State Energy Officials. Published May 2020. www.naseo.org

TECHNICAL REVIEWERS' RATING SUMMARY

IIJA-01-L

Pole Changeouts, Electronic SCADA Recloser, Overhead to Underground

Submitted By: Northern Plains Electric Cooperative

Date of Application: November 2023

Request for \$3,191,835 Grant

Total Project Costs \$4,787,752

| Rating Category | Weighting Factor | Technical Reviewer | | | Average Weighted Score |
|-----------------------------|---------------------|--------------------|--------------|--------------|---------------------------|
| | | A1 Rating | A2 Rating | A3 Rating | |
| 1. Objective 1 | 6 | 4 | 5 | 5 | 28 |
| 2. Objective 2 | 6 | 4 | 5 | 5 | 28 |
| 3. Objective 3 | 6 | 4 | 3 | 4 | 22 |
| 4. Level of Risk Mitigation | 9 | 3 | 5 | 4 | 36 |
| 5. Facilities and Equipment | 3 | 4 | 3 | 5 | 12 |
| 6. Budget | 9 | 2 | 3 | 5 | 30 |
| 7. Jobs Created | 3 | 5 | 1 | 4 | 10 |
| 8. Environmental Impacts | 3 | 4 | 2 | 5 | 11 |
| 9. Expertise | 6 | 4 | 5 | 5 | 28 |
| <hr/> | | | | | |
| Total | 255 | 180 | 198 | 237 | 205 |

OVERALL TECHNICALLY SOUND

GOOD (IF > 170)

FAIR (160-170)

QUESTIONABLE (IF < 160)

| Mandatory Requirements | TR1 Yes | No | TR2 Yes | No | TR3 Yes | No |
|--|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| Eligible Entity and Project | | | | | | |
| Applicant and project eligible | x | | x | | x | |
| Research, Technology and Economic Security | | | | | | |
| Applicant demonstrates compliance with Build American/Buy America and provides information related to foreign national participation and ownership | x | | x | | x | |
| National Environmental Policy Act | | | | | | |
| Applicant has provided documentation of NEPA compliance or completed environmental questionnaire requesting a Categorical Exclusion from the NEPA compliance officer | x | | | x | x | |
| Davis-Bacon Act | | | | | | |
| Applicant has demonstrated that all laborers paid by the applicant and subcontractors comply | x | | | x | x | |
| Cost Share | | | | | | |
| Applicant meets the required cost-share of 1/3 of award value | x | | x | | x | |

1. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce magnitude and duration of grid outages. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 4) *NPEC has responded to this topic and has estimated the time saved to find a fault and isolate the fault and do the proper switching. NPEC has identified all personnel that will be trained to safely operate and interpret data prior to dispatching linemen. NPEC has estimated the outage reduction after implementation of this project.*

Reviewer TR2 (Rating 5)

Reviewer TR3 (Rating 5) *Applicant includes reduction in outages thru use of SCADA and reclosers and underground electrical lines.*

2. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce frequency and impacts of grid outages. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 4) *NPEC has responded to this topic and has estimated the time saved to find a fault and isolate the fault and do the proper switching. NPEC has identified all personnel that will be trained to safely operate and interpret data prior to dispatching linemen. NPEC has estimated the outage reduction after implementation of this project. NPEC has addressed the outage time savings of a broken pole versus a broken wire. If this project were completed, the outage time is reduced significantly.*

Reviewer TR2 (Rating 5)

Reviewer TR3 (Rating 5) *Applicant suggests reduced frequency of outages using SCADA and reclosers, and underground electrical lines.*

3. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Provide lower-cost energy access to disadvantaged or underserved communities. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 4) *NPEC has addressed disadvantaged or underserved communities where applicable and have commented on the cost savings and rate stability in their system after completion of these projects.*

Reviewer TR2 (Rating 3)

Reviewer TR3 (Rating 4) *Applicant clearly serves disadvantaged and underserved communities although the claim of providing lower energy costs to rural communities and Indian tribal communities is not quantified.*

4. Level of risk mitigation: Applicant has provided a cost/benefit analysis demonstrating, based on stated objectives, how their project will reduce the frequency and/or the magnitude and duration of grid outages. 1-No Impact, 2-Small Impact, 3-Likely Impact, 4-Most Likely Impact, 5-Significant Impact

Reviewer TR1 (Rating 3) *NPEC has not provided an estimated cost/benefit analysis in a monetary sense. They have however, stated the expected improvement in grid outages.*

Reviewer TR2 (Rating 5)

Reviewer TR3 (Rating 4) *The project includes opinions of costs of reductions with use of SCADA and reclosers and underground lines although cost/benefit advantage is not presented.*

5. Applicant has demonstrated sufficient resources to complete the project: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *NPEC has commented on the qualified, experienced personnel on their staff that have completed construction projects.*

Reviewer TR2 (Rating 3)

Reviewer TR3 (Rating 5) *Applicant will execute the project using both internal resources to complete the project. Engineering will be self-performed.*

6. The proposed budget is comprehensive and sufficient relative to the outlined work and the timetable, with higher priority given to applicants who exceed the minimum required cost-share. 1-Not Sufficient, 2-Possibly Sufficient, 3-Likely Sufficient, 4-Most Likely Sufficient, 5-Certainly Sufficient

Reviewer TR1 (Rating 2) *NPEC has a budget and timetable for all three projects, however, they could be more detailed and complete. Not sure if all the engineering is finished.*

Reviewer TR2 (Rating 3) *Per the NPEC's proposal, "This project primary cost is the procurement of the SCADA electronic reclosers and panels. The total estimated project budget is \$751,700 and Northern Plains is proposing a 1/3 cost share of total award or \$293,000 and requested grant funds of \$586,000." Total NPEC Cost Share = 33% If 1/3 is assumed minimum Cost Share, then 1/3 = mean score of 2.5 And 100% = 5, Therefore 33% = Score of 2.5*

Reviewer TR3 (Rating 5) *Applicant utilized construction and engineering from internal historical information. Reclosures, cable, and materials were quoted. The applicant did not incorporate the full internal costs associated to the project, ie, trucks, construction management, procurement and related expediting, engineering, project controls and administration, etc.*

7. Applicant has quantified temporary and permanent jobs created as part of the project, with higher priority given to applicants with higher amounts. 1-Not Achievable, 2-Possibly Achievable, 3-Likely Achievable, 4- Most Likely Achievable, 5-Certainly Achievable

Reviewer TR1 (Rating 5) *NPEC has addressed the need and quantity of temporary workers during the completion of these projects.*

Reviewer TR2 (Rating 1) *NPEC's proposal states "As this project is feasible within the current workforce of the Cooperative, a temporary hire of 1 (one) apprentice journeyman will be pursued to assist in the installations. Temporary hire consists of no more than 1,000 hours."*

Reviewer TR3 (Rating 4) *Applicant forecasts permanent or temporary staff to support the projects. The proposal does not include all the costs related to the project, ie, procurement, construction management, SCADA design and implementation, assuming the organization will absorb this work internal to the cooperative.*

8. Applicant has identified any environmental impacts and demonstrated efforts taken to mitigate those impacts. 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *NPEC has addressed Environmental Impacts for all three projects. NEPA review and approval will need to be completed for conversion project #4 and #5 of the Overhead to Underground conversions.*

Reviewer TR2 (Rating 2) *NPEC's proposal states "All work associated with this project DOES NOT involve new any new building construction or site excavations/groundbreaking activities. The project involves routine work within an existing electric distribution substation on existing structures. Work will not require any construction and will not affect any land areas, bodies of water or critical habitats. No socio-economic or historical/cultural resources will be impacted. No environmental impacts with this*

Reviewer TR3 (Rating 5) *Applicant confirms environmental impacts or following NEPA guidelines will be followed. Additionally, the scope of the project does not appear to have an environmental impact.*

9. The background and experience of the project principals with regards to technical qualifications and competence is: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *NPEC has identified the project principal, and a resume is included.*

Reviewer TR2 (Rating 5) *NPEC's proposal states "Northern Plains Electric Cooperative has highly trained personnel and qualified operators on staff who are capable and well experienced in the project as defined. The Cooperative has executed Construction Work Plans with over \$27 million of identified projects. In addition, the Cooperative has successfully completed Hazard Mitigation Grants (HMGs) in coordination with FEMA as the grant administrators."*

Reviewer TR3 (Rating 5) *Applicant has competent and capable personnel on staff to execute the project. Technical scope is not difficult.*

Section C. Overall Comments and Recommendations:

Please comment in a general way about the merits and flaws of the proposed project and make a recommendation whether or not the project is technically sound.

Reviewer TR1: *NPEC has three viable projects. They could have provided more detail regarding cost/benefit of the projects. NPEC has provided clear maps of the project area. They have also included vendor letters and catalog cuts stating that materials are made in the USA.*

Reviewer TR2 *This proposal does satisfy Objective or Metric requirements and is technically feasible.*

Reviewer TR3 *Applicant has proposed a reasonable project that is achievable and technically reasonable. The recloser materials may require a waiver based on % manufactured in USA but this is to be determined. The project is expected to result in less outages and shorter duration of outages.*

North Dakota Transmission
Authority

North Dakota Industrial Commission

BIL 40101(d) Application

Project Title: NPEC_01 Electronic SCADA
Recloser Installation

Applicant: Northern Plains Electric
Cooperative

Date of Application: 11/20/2023

Amount of Grant Request: \$586,000

Total Amount of Proposed Project:
\$879,000

Duration of Project: 10 Months

Point of Contact (POC): Ashten Dewald,
Engineering Manager

POC Telephone: 701-652-3156

POC Email: ashtend@nplains.com

POC Address:

PO Box 180

Carrington, ND 58421

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Applicant Description

Northern Plains Electric Cooperative is a member-owned electrical distribution cooperative that provides service to over 11,900 locations. Northern Plains’ service territory is one of the largest in North Dakota, encompassing 11 counties and two reservations in a 50 to 70-mile-wide area from south of Jamestown to the Canadian border. The Cooperative has 42 employees and is managed through a nine-member board of directors. Offices are located in Cando and Carrington as well as 6 outposts across the service territory.

Northern Plains’ membership consists of residential homes, farms, critical care facilities, schools, irrigation, commercial and industrial loads. The Cooperative owns and operates 6,666 miles of distribution (3,807 miles overhead and 2,859 miles underground) and has annual sales of approximately 430,000 MWh.

Project Description

Northern Plains is proposing implementing adaptive protection technologies with the installation of 19 sets of remote operated SCADA ready electronic reclosers and panels in existing distribution substations. These reclosers will allow dispatchers to remotely control and isolate faults prior to the crews being on scene. This also allow remote access to fault current and locating of line faults to improve the response time to outages. This project will upgrade 6 substations that will benefit approximately 2,440 member meters in Towner, Rolette, Benson, Pierce, Ramsey, Wells, and Eddy Counties.

The distribution substations that are identified for the installation of the SCADA ready reclosers are provided in the Table 1. The table identifies the substation, feeders and customers served. A map of the substation locations is provided in Attachment 1.

| <u>Distribution Substation</u> | <u>Number of Feeders</u> | <u>Number of Recloser Sets</u> | <u>Customers</u> | <u>Counties Impacted</u> |
|--------------------------------|--------------------------|--------------------------------|------------------|--------------------------|
| Rolla | 3 | 3 | 309 | Towner/Rolette |
| Rocklake | 2 | 2 | 187 | Towner |
| Cando | 4 | 4 | 838 | Towner |
| Esmond | 3 | 3 | 170 | Benson/Pierce |
| Fort Totten | 3 | 3 | 571 | Benson |
| New Rockford | 4 | 4 | 368 | Eddy/Wells |
| | 19 | 19 | 2443 | |

Table 1: SCADA Recloser Installation Locations

Product Information and Build America / Buy America

The NOVA Triple Single (TS) recloser system and Form 6 are developed and sold by Eaton. The product is considered a commercial-off-the-shelf and is available to utilities throughout the United States. A brief product overview is provided as Attachment 2.

Components of the recloser and panel are sourced by qualified/designated global partners with the complete unit being designed and manufactured in the United States. Upon review of the product and associated items, a waiver for Buy America may be required due to not meeting the requirement of the total cost of all U.S. made components being greater than 55 percent. A waiver would be pursued if this application were to be approved.

Facilities / Equipment / Job Creation

Installation of the SCADA ready electronic reclosers and panels is work that has been performed by Northern Plains' journeyman lineman on multiple occasions at other distribution substations. The resources required entail 4 journeyman lineman for installation of reclosers, panel and associated wiring/terminating. An engineer is required to establish the overall technical plan, program the panel for protection schemes, install communication hardware and perform SCADA integration. Equipment required by the line crews are standard bucket trucks and lifts that the Cooperative currently owns as part of its fleet.

As this project is feasible within the current workforce of the Cooperative, a temporary hire of 1 (one) apprentice journeyman will be pursued to assist in the installations. Temporary hire consists of no more than 1,000 hours.

Davis Bacon Act Requirements

Northern Plains' employees are paid wages equivalent to prevailing wages as similar electric distribution cooperatives throughout North Dakota. The journeyman lineman employed with the Cooperative are part of the International Brotherhood of Electrical Workers (IBEW) and have an existing 4-year union contract that identifies wages that are in comparison of other North Dakota electric cooperative IBEW union contracts. Northern Plains will ensure that all contractors who intend to bid on the proposed work will ensure they will meet prevailing wage requirements. Each contractor will need to provide registration with the Secretary of State and the Labor and Human Rights Office.

Proposed Cost Match

Northern Plains is proposing to cost-share 1/3 of the award value. The Cooperative sells less than 4 million MWh annually. Full project budget is provided in the “Project Budget” section.

Expertise

Northern Plains Electric Cooperative has highly trained personnel and qualified operators on staff who are capable and well experienced in the project as defined. The Cooperative has executed Construction Work Plans with over \$27 million of identified projects. In addition, the Cooperative has successfully completed Hazard Mitigation Grants (HMGs) in coordination with FEMA as the grant administrators.

Ashten Dewald, P.E. is the principal contact for this grant and she is a professional engineer with 10 years of electric distribution experience. Ashten is the current Engineering Manager for Northern Plains. Ashten’s resume is provided in Attachment 3.

Environmental Impacts

All work associated with this project DOES NOT involve new any new building construction or site excavations/groundbreaking activities. The project involves routine work within an existing electric distribution substation on existing structures. Work will not require any construction and will not affect any land areas, bodies of water or critical habitats. No socio-economic or historical/cultural resources will be impacted. No environmental impacts with this project.

Standards of Success

The response times are delayed due to the reclosers having to be manually operated by qualified personnel. SCADA enabled distribution equipment can shorten outages and create automated resiliency while providing real-time equipment information without having to dispatch field crews.

Objective 1: *Reduce the magnitude and duration of grid outages caused by major disruptive storm and non-storm events.*

SCADA enabled electronic reclosers and panels installed within a distribution substation will aid in reducing outage restoration times as it will allow dispatchers and operations personnel to remotely monitor, control and aid in isolating permanent faults that may occur on overhead or underground distribution. The fault current data that can be retrieved from the electronic recloser can be used to determine the fault location and accelerate the restoration time dramatically.

- Existing procedures for a line crew to respond to an outage is to place a lineman at the substation to operate the hydraulic recloser while other linemen will either visually patrol the distribution if it is an overhead line or sectionalize a portion of underground and attempt to operate the recloser to determine the fault location and isolate. Remotely operating a recloser and receiving fault data will eliminate the need for a lineman to travel to the substation and provide a more precise fault location, eliminating the time required to patrol a line or isolate sections of underground. It is expected to reduce the fault locating and isolation time from an average of 3 hours to an average of 45 minutes, aiding in minimizing the impact to only the faulted portion of the line. Repair time of the actual fault will stay the same as there is no change in the repair work required.
- If a distribution substation's transmission source is lost due to weather or a transmission fault, the electronic reclosers may be utilized to switch load from one substation to a neighboring substation via distribution. Normal procedures would require sending a line crew to each distribution substation to manually open and close breakers to move load, where with electronic reclosers this can be done in a matter of minutes remotely from dispatch. It is expected to reduce the time to switch out a substation from an average of 2 hours to average of 15 minutes.
- Three operations/dispatch personnel would be trained in safely remote operating and retrieving data from the electronic reclosers. All journeyman lineman (22) would be trained in order to understand the safe work practices needed when a recloser may be operated remotely.

Objective 2: *Reduce the frequency and impacts of grid outages caused by major disruptive storms and non-storm events.*

SCADA enabled electronic reclosers and panels may not directly reduce the frequency of grid outages from storm and non-storm events or improve the physical durability of the grid, but they can significantly reduce the amount of time a customer is impacted from an event. The qualitative assessment and restoration times are both improved.

- As mentioned in Objective 1, both the capability of remotely determining the location of a fault and having the capability to remotely switch customers from one distribution substation to an adjacent substation accelerates outage restoration and improves operational flexibility. It is expected that customer outages would be reduced from an average of 3 hours utilizing conventional practices to less than 1 hour.

Objective 3: *Implement grid modernization projects to develop energy solutions that provide lower-cost energy access to disadvantaged or underserved communities.*

- This project application does not involve the development of renewable energy or distributed energy resources. Although, the reduction in restoration and response times will overall improve efficiency and savings, in turn helping keep the Cooperative's controllable costs down and electric rates stable.

Project Timeline

This project would be able to proceed immediately if it was to be approved. The longest lead item would be procuring the electronic reclosers and panels. The timeline provided below is based off current lead times provided by the manufacturer and Northern Plains' past experience with substation recloser installations.

- January 2024 Order NOVA-TS Electronic Recloser / Form 6 Panels (35 week lead-time) and establish installation plans
- September 2024 Install reclosers and panels in the substations
- December 2024 Install communication equipment, program recloser panels, test and verify SCADA connection and functionality
- December 2024 Project close-out and completion

Project Budget

This project primary cost is the procurement of the SCADA electronic reclosers and panels. The total estimated project budget is \$751,700 and Northern Plains is proposing a 1/3 cost share of total award or \$293,000 and requested grant funds of \$586,000.

- Material costs:

\$36,000/recloser set x 19 units = \$684,000 – per latest bid from vendor

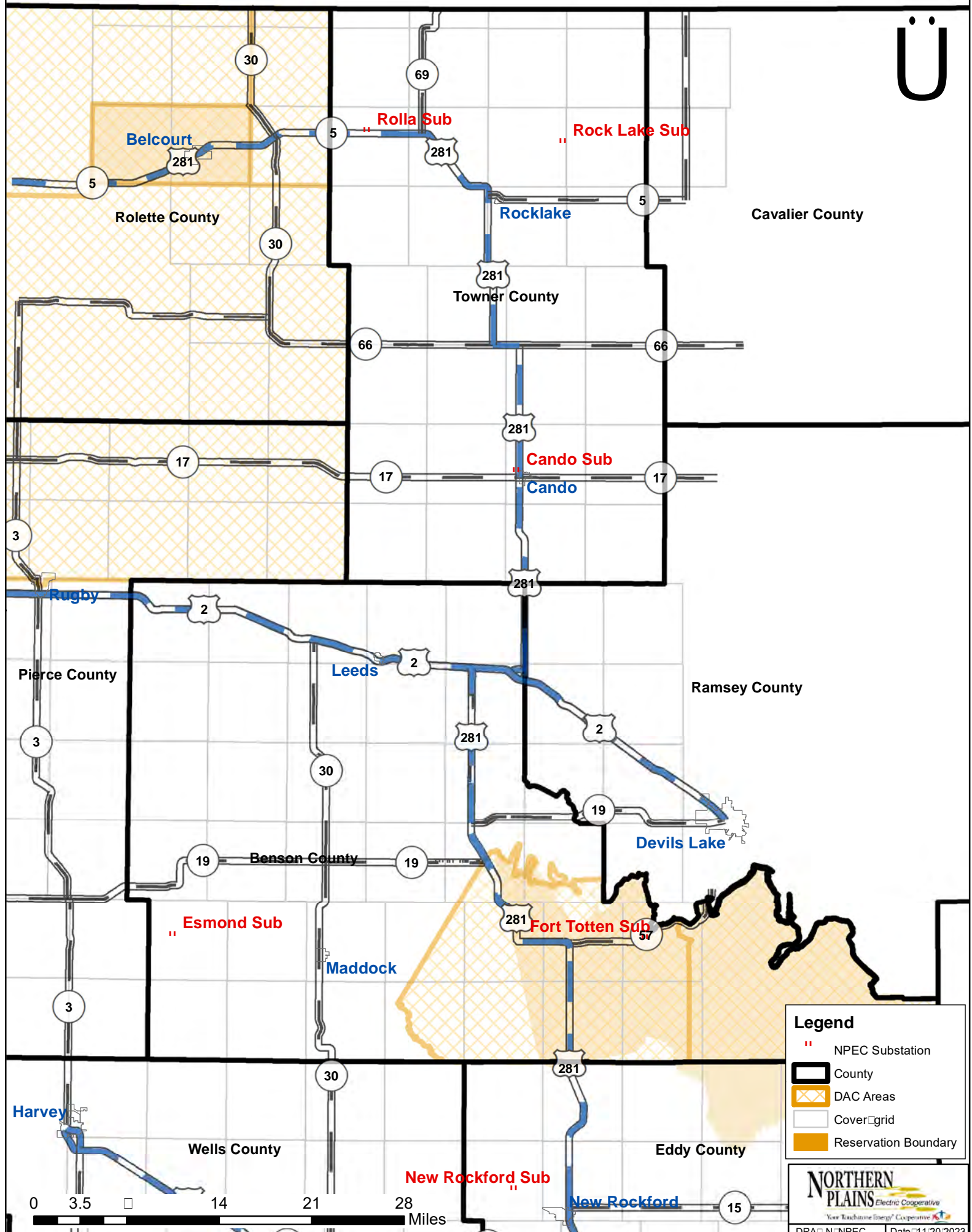
Jumper Wire and Terminations x 19 installs = \$28,500 – based on historical installs

- Install Labor Costs: \$8,500/set x 19 units = \$161,500 – based on historical installations
- Admin/Engineering: \$5,000 – based on historical installations

Total Budget = \$879,000

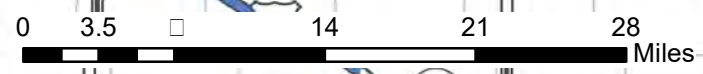
Attachment 1

Canada



Legend

- ⌘ NPEC Substation
- ▭ County
- ▨ DAC Areas
- ▭ Cover Grid
- ▭ Reservation Boundary



NORTHERN PLAINS
Electric Cooperative
Your Touchstone Energy® Cooperative

DRA: N NPEC Date: 11/20/2023

Attachment 2



Coordinated, dependable and precise automation

Standardize on the triple-single recloser that provides real benefits and real value. Eaton's Cooper Power series NOVA™-TS triple-single recloser system allows multi-mode configuration for coordinated, dependable and precise automation.

Application versatility, automatic overcurrent protection

The NOVA-TS triple-single recloser system is comprised of the following:

- Three single-phase NOVA-TS reclosers, each with:
 - Manual trip lever
 - Mechanical contact position indicator
- Form 6-TS recloser control
- One compatible, common junction box, which includes:
 - Three interconnecting cables (user-specified length)
 - One receptacle to provide easy access to the Form 6-TS control cable
- Control cable (user-specified length)

The NOVA-TS recloser has three modes of operation:

- **Three-phase trip, three-phase lockout (MODE A)**
All three phases simultaneously trip on an overcurrent, reclose and sequence together.
- **Single-phase trip, three-phase lockout (MODE B)**
Each individual phase will sense line current and only the phase corresponding to the faulted phase will trip.

If any one phase sequences to lockout, the other two phases also lock out, eliminating permanent single-phasing of three-phase loads.

- **Single-phase trip, single-phase lockout (MODE C)**
Each individual phase trips and sequences to lockout independently of each other. This is primarily for residential loads and/or where single-phasing of three-phase loads is protected by other means.



EATON

Powering Business Worldwide

Form 6-TS control operation

One Form 6-TS control for three reclosers, easily configured using ProView™ interface software provides:

- Flexible coordination
- Advanced event recorder/data profiler analysis tools
- Voltage, current and harmonic metering

Additionally, the front panel allows the user to manually open and close any phase independently without menu navigation.

Proven reliability

- Automation to improve substation performance
- Light-weight design well-suited for retrofit or new applications

Enhanced protection with dynamic phase tripping

A configurable option for MODE C operation is available to trip and lockout all three phases in the event of a phase-to-phase or three-phase fault. Normal operations occur per the programmed sequence for a single phase-to-ground fault; however, if a phase-to-phase fault occurs, the control will trip and lock out all three reclosers when any one phase sequences to lockout. This avoids any multiphase energization from one phase.

Internal voltage sensing

Using a high-voltage resistor within each interrupter module with source-side connections, the sensing option and control support a magnitude accuracy of 2% or better and a phase degree accuracy of $\pm 1.5^\circ$.

Modernize substation applications

- Cost-effective solution for your protection, metering and communication applications
- Automation features of the Form 6-TS control will improve your substation performance
- Add the remote operation, status and analog metering functions to your automation system through standard industry protocols for real-time system analysis and optimization
- Light weight of recloser system may allow for retrofit of existing structure without the expense of foundations or other structural changes

Effective NOVA-TS recloser application

Multiple fault scenarios were analyzed to provide proper system coordination for both phase and ground faults.

- Phase-to-ground, phase-to-phase and three-phase faults, along with multiple faults on different phases, were studied to verify the correct sequencing of each recloser with proper time-current curves
 - Load-side fuse protection is maintained even if two faults occur on different phases prior to resetting the control
- Should problems occur, utility operators would discover great benefits in repairs made on an individual phase basis
- Replacement of individual phase devices brings lower inventory economics and shorter system restoration and bypass intervals

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For Eaton's Cooper Power series Switchgear Support Group, call 1-800-497-5953 or visit: [Eaton.com/cooperpowerseries](https://www.eaton.com/cooperpowerseries)

Maximum functionality and ultimate user configurability



The ultimate choice for distribution protection—with the powerful Form 6 control, one platform provides uniform design, programming and training.

Distribution protection

Eaton's Cooper Power™ series Form 6 control is designed to be a flexible, easy-to-use control that has been built to the specifications of utility crews, service technicians and field operators. It provides important service restoration operations, with instant access to operating functions to quickly determine the status of a device, locate faulted phases, check counters, and find other critical information.

Form 6 control is ideal for a variety of substation applications including:

- Main feeder protection
- Industrial service entrance
- Cogeneration inter-tie
- Automation via PeerComm™ communication protocol
- Distribution automation via integration with Cooper Power Series Substation Modernization Platform™ (SMP) line of products
- Portable substation

The versatile Form 6 control can be used in the following line applications:

- Main line sectionalizing
- Automatic reconfiguration
 - PeerComm communication protocol automation
 - Loop sectionalizing
- Sectionalizing laterals
- Power quality monitoring

Form 6 control is available in various mounting configurations including:

- Pole mount
- Yard mount
- Rack mount
 - Single
 - Single loop scheme
- Pole-mount loop scheme

Form 6 control can be used with the following protection equipment:

- Reclosers
 - NOVA™
 - NOVA triple-single
 - RXE
 - RVE
 - WE
 - WVE
 - WVE
 - WWVE
 - VSA
 - VSO
 - PWE
 - PWVE
- Pad-mounted switchgear (custom applications)
- Breakers (with 5A input or 1 A CT inputs)



Powering Business Worldwide

Take control of power quality with Eaton's knowledge-based data analysis tools—designed to improve power quality



Use one control for multiple applications:

ProView™ software supports maximum flexibility and the highest performance standards.

Easy to use: Complex control schemes are easy with the Idea Workbench™ feature and detailed help files.

Test your protection logic: Simulate different fault events to test virtual responses prior to field exposure with the Virtual Test Set™ feature.

- **Oscillography**
Simultaneously monitors the integrated performance of a recloser and the control, showing user-defined cycles before and after a trigger point
- **Oscillography replay**
Previews how the control will behave for the same fault with altered settings to reduce future fault occurrences
- **Data profiler**
Can be customized for sample rate and metering forms like weekly load profiles, daily harmonic disturbances or hourly voltage fluctuations
- **Sequence of events log**
Provides detailed reporting of system operations, including current and voltage values for a minimum of 90 events. The last five events are conveniently displayed in the front panel LCD for easy access
- **Duty cycle monitor**
Measures and records duty for each phase to accurately predict contact life of recloser interrupters and can be adjusted or reset if recloser is changed or serviced
- **Application diagram**
Saves troubleshooting costs by allowing you to quickly view your system in one window where active logic elements of the control and distribution system are displayed
- **Comprehensive metering**
Reduces operating costs by providing accurate load current measurements to balance feeders, improves system planning with real-time data reports, and increases efficiency through quick fault location and identification

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May 2017

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Follow us on social media to get the latest product and support information.



Understanding common domestic preference requirements

Impact of domestic preference requirements on government projects

“Domestic preference” refers to requirements imposed upon contractors and their suppliers concerning the origin and composition of the products or materials that will be utilized in the construction or completion of these projects. Having a general understanding of these requirements is useful because it impacts customer base and sales.

U.S. Federal Government agencies, and some state and local government agencies, must comply with domestic sourcing laws when acquiring supplies, services or construction materials. For federal agencies, there are four primary domestic sourcing laws: **Buy America Act** (“Buy America”), **Buy American Act** (“BAA”), **Build America Buy America**, and **Trade Agreements Act** (“TAA”). The applicable rules and regulations for a specific situation can be determined by understanding the funding source, the amount of the procurement, and the specific agency’s controlling regulations. The following provides a general overview of these provisions.

Buy American Act (BAA)

The Buy American Act (BAA) creates a national purchasing preference for federal government agencies to buy domestic end products when it purchases supplies and construction materials. The Buy American Act uses a two-part test to determine if an end product is domestic: (1) the article must be manufactured in the United States; and (2) the cost of the domestic components must exceed 60% of the costs of all of the components. Over the next several years the percentage will increase to 65% effective in calendar year 2024 and 75% effective in calendar year 2029. The relevant threshold is determined by the year that the goods are sold in, not the year that the contract was originally executed. A price premium of 20% or 30% (depending on the size of the business) will be added for pricing evaluation by the contracting officer (making it less competitive) when the domestic requirement is not satisfied.

The components test prong does not apply to commercial off the shelf (COTS) items, unless the COTS items consist wholly or predominately of iron or steel. A COTS item is a product that is customarily used by the public for non-government purposes, is sold in substantial quantities in the commercial marketplace, and is offered to the government without modification. However, for COTS items or any products that consist wholly or predominately of steel or a combination of both, the cost of foreign iron or steel must be less than 5% of the cost of all the components of the end product in order to be considered domestic.

The BAA has multiple exclusions and waiver processes available that allow for the purchase of foreign end products. The most prevalent is the public interest waiver. Under the public interest waiver, the head of an agency may waive application of the Buy American Act if it determines the domestic preference is inconsistent with the public interest and it has an agreement with a foreign government that provides a blanket exception to the statute. The Department of Defense has used the public interest waiver to waive application of the Buy American Act to twenty-six countries, including Canada, Japan, the United Kingdom, and Germany.

The Federal Aviation Administration (FAA) Buy American provisions require that all steel and manufactured goods used in Airport Improvement Program (AIP) funded projects be produced in the United States. In addition to being produced in the United States, recipients must certify that the product is comprised of 100% U.S. materials.

Buy America

Buy America is applicable to state and local government projects typically when these projects are funded by the Federal Transit Administration (FTA). For a manufactured product to be compliant with FTA Buy America, all of the product’s manufacturing processes must take place in the U.S. and 100% of the components of supplies or construction materials must be made in the U.S. A component is considered of U.S. origin if it is manufactured in the United States, regardless of the origin of its subcomponents. A cost-based waiver is applicable if the cost of domestic materials is 25% more expensive than foreign materials. A price premium of 25% will be added for pricing evaluation by the contracting officer if the domestic requirement is not satisfied.



The Federal Transit Administration, Amtrak, Federal Highway Administration, Federal Railroad Administration, Buy America Build America, Infrastructure Investment and Jobs Act, and the Environmental Protection Agency all have their own respective Buy America regulations that differ slightly in content and application.

Build America, Buy America

The Build America, Buy America Act, applies a domestic content procurement preference requirement to Federally funded public "infrastructure projects" after May 14, 2022. The domestic content procurement preference requires that all iron, steel, manufactured products, and construction materials used in covered infrastructure projects are produced in the United States. In addition to the product being produced in the United States, the cost percentage of the domestic content of the product must be greater than 55% of the total cost of the product.

Trade Agreements Act (TAA)

The TAA waives application of the BAA based on the overall country of origin of the components. In order to achieve TAA compliance, the components must be "wholly" sourced from the US or a designated country. A product can be compliant with the TAA even if 100% of its components are foreign components, as long as the components are substantially transformed in the U.S. or a designated country (those that have trade agreements with the U.S.

that require their goods to be treated the same as U.S. domestic products). The TAA's substantial transformation requirement is different from the BAA's manufacturing requirement. A product is "substantially transformed" when a fundamental change in its form, nature or character occurs- when it has been transformed into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was transformed. There are also dollar thresholds applicable to TAA compliance (i.e. the dollar value of the acquisition determines which of the trade agreements applies).

Compliance Actions

With the government funding of federal and state projects, reporting obligations may be imposed concerning the domestic content of the products supplied to Eaton's customers for covered projects. Contractors (prime or sub-contractors) may be required to 'certify' that the products they are purchasing or utilizing for covered projects comply with the various domestic preference regulations. Also, Eaton's customers may request or require Eaton to 'certify' or verify that products we supply are compliant. Should you have any questions regarding the compliance status of Eaton's products, do not hesitate to reach out to your local Eaton sales representative for more information.

For additional information, visit [Eaton.com/BuyAmerica](https://www.eaton.com/BuyAmerica)



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FUTURE**

Attachment 3

Resumes

Confidentiality Statement: Pages [1&2] of this document may contain trade secrets, confidential, proprietary, or privileged information that is exempt from public disclosure. Anything marked in brackets [] shall be deemed confidential.

1. Contact Information

[Ashten Dewald, PE 40209]
Engineering Manager
Northern Plains Electric Cooperative
PO Box 180 Carrington, ND 58421
[1 (701) 652-1852]
[ashtend@nplains.com]

2. Education

1. [Sargent Central Public Highschool]
 - a. Graduated May 2007
2. South Dakota School of Mines and Technology
 - a. Aug 2007 – Dec 2011
 - b. Bachelors of Science in Electrical Engineering

3. Training

North Dakota Professional Engineer

4. Professional Experience

- Engineering Manager Feb 2022-Present
[Northern Plains Electric Cooperative in Carrington, ND]
Oversee the day-to day activities of the engineering department. Work with the engineering department to develop work plans and implement design infrastructure in accordance with current specifications.
- Engineering & Operations Manager Jan 2019 - Feb 2022
[Northern Plains Electric Cooperative in Carrington, ND]
Oversee the day-to day activities of the engineering and operations department. Work with the engineering department to develop work plans and implement design infrastructure in accordance with current specifications. Work with the operations and line personnel to implement the designs and build distribution facilities in a safe and efficient manner.
- System Engineer Dec 2013 – Jan 2019
[Northern Plains Electric Cooperative in Carrington, ND]

Responsible for the design, coordination, overcurrent protection, voltage regulation, load balancing, planning, and troubleshooting of the Cooperative's electric power distribution system.

- Electrical Engineer Jan 2012-Dec 2013
[John Deere Power Electronic Solutions in Fargo, ND]
Test verification and design to verify conformance to SAE standards on power electronics circuitry and equipment along with monitoring and analysis on prototypes.
- Student Sept 2007 – Dec 2011
[South Dakota School of Mines and Technology]
Rapid City, SD
- Electrical Engineer Intern May 2011-Aug 2011
[John Deere Electronic Solutions in Fargo, ND]
Test monitoring and verification for conformance to SAE standards on power electronics circuitry and equipment.
- Electrical Engineer Intern May 2010-Aug 2010
[John Deere in Waterloo, IA]
Test and user Interface creation in LabVIEW to coordinate with equipment in the lab to perform testing on smaller electronics.

5. Appointments

I do not have any Appointments

North Dakota Transmission
Authority

North Dakota Industrial Commission

BIL 40101(d) Application

Project Title: NPEC_02 Pole Changeouts

Applicant: Northern Plains Electric
Cooperative

Date of Application: 11/20/2023

Amount of Grant Request: \$810,667

Total Amount of Proposed Project:
\$1,216,000

Duration of Project: 11 Months

Point of Contact (POC): Ashten Dewald,
Engineering Manager

POC Telephone: 701-652-3156

POC Email: ashtend@nplains.com

POC Address:

PO Box 180

Carrington, ND 58421

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| Project Description | 1 |
| Standards of Success | 3 |
| Project Timeline | 4 |
| Project Budget | 4 |
| Attachments | |
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| | |

Applicant Description

Northern Plains Electric Cooperative is a member-owned electrical distribution cooperative that provides service to over 11,900 locations. Northern Plains' service territory is one of the largest in North Dakota, encompassing 11 counties and two reservations in a 50 to 70-mile-wide area from south of Jamestown to the Canadian border. The Cooperative has 42 employees and is managed through a nine-member board of directors. Offices are located in Cando and Carrington as well as 6 outposts across the service territory.

Northern Plains' membership consists of residential homes, farms, critical care facilities, schools, irrigation, commercial and industrial loads. The Cooperative owns and operates 6,666 miles of distribution (3,807 miles overhead and 2,859 miles underground) and has annual sales of approximately 430,000 MWh.

Project Description

This project is the mass changeout of 700 of our end-of-life poles that were deemed un-fit to stay in service for long term use due to standard pole inspection. These poles are located in Stutsman, Foster, Wells, Benson, and Pierce Counties and will improve the resilience against wind and ice and can greatly improve the reliability of the surrounding system. The bulk of the Northern Plains overhead system was installed between 1949 and 1952. A vast majority of these poles are still in service today. The testing of these poles can determine the weak areas of the line and by strategically removing the weaker poles and adding strong healthy poles in their place, increase the strength of the entire line. An overview of the pole locations is provided in Attachment 1.

Product Information and Build America / Buy America

The primary product utilized in this project are 35-4 distribution poles. The 35-4 class of poles is the standard product for installation as identified in our construction work plan. The Cooperative procures these poles from the Stella-Jones Corporation and they are produced and manufactured in the U.S. The hardware that is installed on the pole replacement such as the pole top pin and offset neutral are also manufactured in the U.S. All products meet the Buy America requirements.

Facilities / Equipment / Job Creation

Installation of the distribution poles is work that has been performed by Northern Plains' journeyman lineman on a regular basis as this standard practice for owning and maintaining distribution system. The resources required entail 3-4 journeyman lineman for installation of pole and removing the old pole. An engineer is required to establish the overall pole

replacement work orders and staking. Equipment required by the line crews are standard bucket trucks, digger derricks and/or bobcats with pole attachments. The Cooperative currently owns all the necessary equipment and fleet.

As this project is feasible within the current workforce of the Cooperative, it has been proven to be more cost effective to hire out the pole replacements to a contractor. This project will entail hiring a contractor consisting of 3-4 journeyman and will last for the entire term of the project.

Davis Bacon Act Requirements

Northern Plains' employees are paid wages equivalent to prevailing wages as similar electric distribution cooperatives throughout North Dakota. The journeyman lineman employed with the Cooperative are part of the International Brotherhood of Electrical Workers (IBEW) and have an existing 4-year union contract that identifies wages that are in comparison of other North Dakota electric cooperative IBEW union contracts. Northern Plains will ensure that all contractors who intend to bid on the proposed work will ensure they will meet prevailing wage requirements. Each contractor will need to provide registration with the Secretary of State and the Labor and Human Rights Office.

Proposed Cost Match

Northern Plains is proposing to cost-share 1/3 of the award value. The Cooperative sells less than 4 million MWh annually. Full project budget is provided in the "Project Budget" section.

Expertise

Northern Plains Electric Cooperative has highly trained personnel and qualified operators on staff who are capable and well experienced in the project as defined. The Cooperative has executed Construction Work Plans with over \$27 million of identified projects. In addition, the Cooperative has successfully completed Hazard Mitigation Grants (HMGs) in coordination with FEMA as the grant administrators.

Ashten Dewald, P.E. is the principal contact for this grant and she is a professional engineer with 10 years of electric distribution experience. Ashten is the current Engineering Manager for Northern Plains. Ashten's resume is provided in Attachment 2.

Environmental Impacts

The project involves routine work within the existing right-of-way and replacement of the poles will take place in the exact location of the retired pole. Work will not require any new construction and will not affect any land areas, bodies of water or critical habitats. No socio-

economic or historical/cultural resources will be impacted. This type of project is coded as categorical excluded in our standard construction work plans with RUS.

Standards of Success

This project will help reduce the magnitude and duration of grid outages caused by major disruptive storm and non-storm events. Adding a healthy pole where there was previously a weak pole will prevent the cascading pole toppling effect and shorten outage times due to weather events. Having a strong pole system is critical in reducing outage times in areas where undergrounding is not practical. The time to restoration is generally shortened due to only needing to replace small line items instead of entire poles which require specialty equipment for installation.

Objective 1: *Reduce the magnitude and duration of grid outages caused by major disruptive storm and non-storm events.*

A more robust pole that has not been in place for more than 70 years will be able to withstand the effects of weather events such as high winds. The pole will be stouter and can hold up during ice loading on the overhead lines. It is preferred to have the wire or line material to fail rather than the actual pole. Restoration is accelerated if only the wire is needed to be repaired rather than removing a broken pole and installing a new pole.

- It is expected to reduce the magnitude and duration of an average outage due to a weather event in relation to a broken pole versus a broken wire by 2 hours down to 30 minutes. Impact to actual number of members is difficult to quantify since the area covered in this project is so widespread.

Objective 2: *Reduce the frequency and impacts of grid outages caused by major disruptive storms and non-storm events.*

The frequency of outages would be reduced as the infrastructure can handle more ice loading and high winds. Impacts of grid outages would also be reduced as the amount of broken poles would be reduced and the potential of a cascading pole failure would also be reduced.

- Similar to Objective 1, it is expected that customer outages would be reduced from an average of 2 hours down to less than 1 hour.

Objective 3: *Implement grid modernization projects to develop energy solutions that provide lower-cost energy access to disadvantaged or underserved communities.*

- This project application does not involve the development of renewable energy or distributed energy resources. Although, the reduction in restoration and response times will overall improve efficiency and savings, in turn helping keep the Cooperative's controllable costs down and electric rates stable.

Project Timeline

This project would be able to proceed immediately if it was to be approved. The first step would be to procure the material for the project. The timeline provided below is based off current lead times provided by the manufacturer and Northern Plains' past experience with changing out poles. The start of contractor activities would be dependent on weather and road restrictions.

| | |
|----------------------|---|
| January 2024 | Order Poles and Materials for changeouts |
| January – March 2024 | Create Work Orders for Contractors, receive materials |
| March 2024 | Weather and road restriction permitting, Contractor to start changing poles |
| March – October 2024 | Contractor Change poles |
| November 2024 | Project completion |

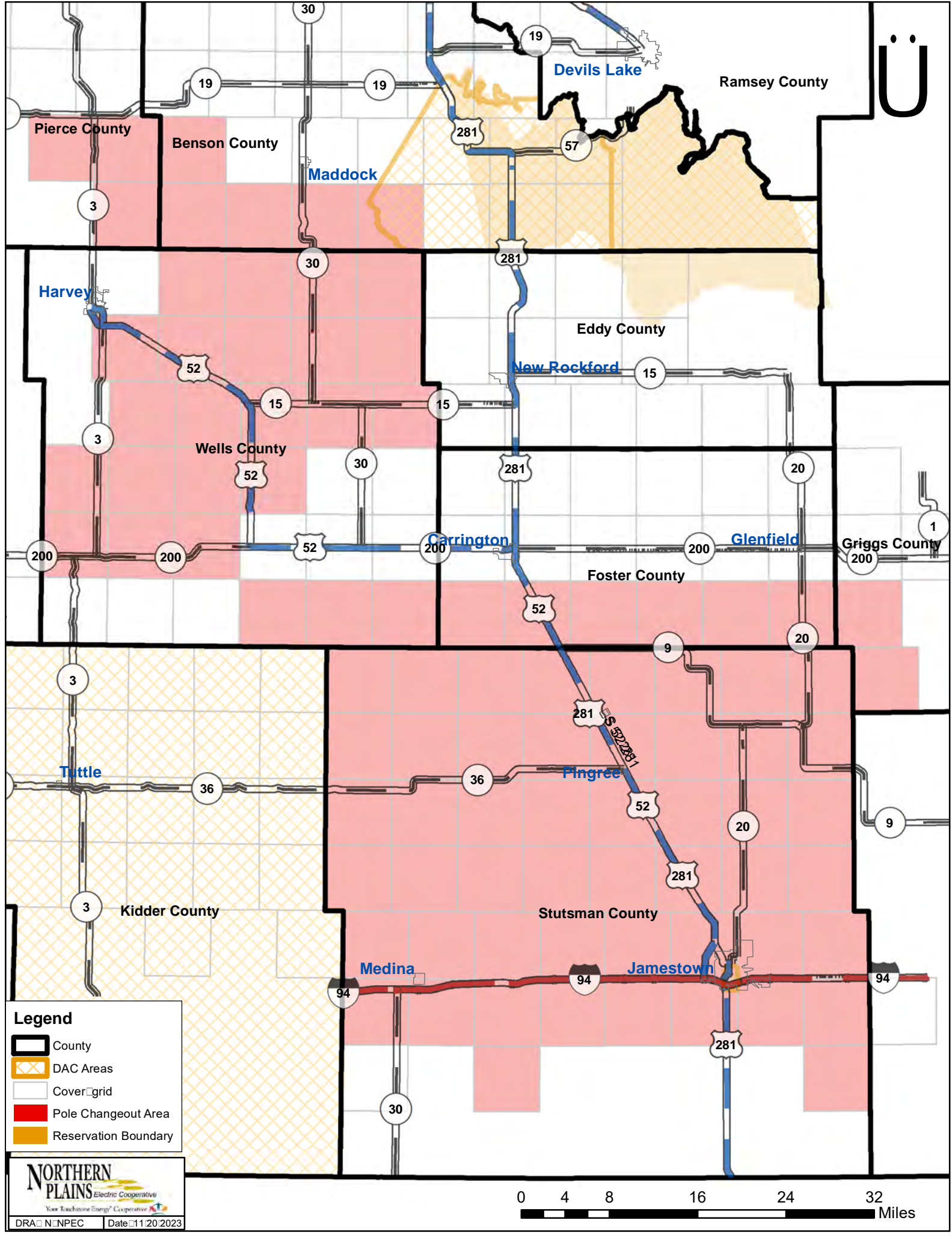
Project Budget

Material costs:

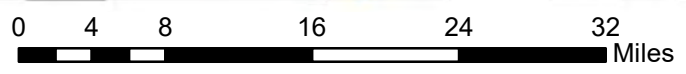
| | |
|--------------------------------|--|
| Poles = \$392,000 | Per most recent bids for poles |
| Framing Material = \$84,000 | Per most recent bids for material |
| Install Labor Costs: \$735,000 | Historical cost utilizing a contractor |
| Admin/Engineering: \$5,000 | |

Total Budget = \$1,216,000

Attachment 1



- Legend**
- County
 - DAC Areas
 - Cover grid
 - Pole Changeout Area
 - Reservation Boundary



Attachment 2

Resumes

Confidentiality Statement: Pages [1&2] of this document may contain trade secrets, confidential, proprietary, or privileged information that is exempt from public disclosure. Anything marked in brackets [] shall be deemed confidential.

1. Contact Information

[Ashten Dewald, PE 40209]
Engineering Manager
Northern Plains Electric Cooperative
PO Box 180 Carrington, ND 58421
[1 (701) 652-1852]
[ashtend@nplains.com]

2. Education

1. [Sargent Central Public Highschool]
 - a. Graduated May 2007
2. South Dakota School of Mines and Technology
 - a. Aug 2007 – Dec 2011
 - b. Bachelors of Science in Electrical Engineering

3. Training

North Dakota Professional Engineer

4. Professional Experience

- Engineering Manager Feb 2022-Present
[Northern Plains Electric Cooperative in Carrington, ND]
Oversee the day-to day activities of the engineering department. Work with the engineering department to develop work plans and implement design infrastructure in accordance with current specifications.
- Engineering & Operations Manager Jan 2019 - Feb 2022
[Northern Plains Electric Cooperative in Carrington, ND]
Oversee the day-to day activities of the engineering and operations department. Work with the engineering department to develop work plans and implement design infrastructure in accordance with current specifications. Work with the operations and line personnel to implement the designs and build distribution facilities in a safe and efficient manner.
- System Engineer Dec 2013 – Jan 2019
[Northern Plains Electric Cooperative in Carrington, ND]

North Dakota Transmission
Authority

North Dakota Industrial Commission

BIL 40101(d) Application

Project Title: NPEC_03 Overhead to
Underground Conversions

Applicant: Northern Plains Electric
Cooperative

Date of Application: 11/20/2023

Amount of Grant Request: \$1,795,168

Total Amount of Proposed Project:
\$2,692,752

Duration of Project: 8 Months to 1.8 Years

Point of Contact (POC): Ashten Dewald,
Engineering Manager

POC Telephone: 701-652-3156

POC Email: ashtend@nplains.com

POC Address:

PO Box 180

Carrington, ND 58421

TABLE OF CONTENTS

Please use this table to fill in the correct corresponding page number.

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| Applicant Description | 1 |
| Project Description | 1 |
| Standards of Success | 7 |
| Project Timeline | 9 |
| Project Budget | 10 |
| Attachments | |
| | |
| | |

Applicant Description

Northern Plains Electric Cooperative is a member-owned electrical distribution cooperative that provides service to over 11,900 locations. Northern Plains' service territory is one of the largest in North Dakota, encompassing 11 counties and two reservations in a 50 to 70-mile-wide area from south of Jamestown to the Canadian border. The Cooperative has 42 employees and is managed through a nine-member board of directors. Offices are located in Cando and Carrington as well as 6 outposts across the service territory.

Northern Plains' membership consists of residential homes, farms, critical care facilities, schools, irrigation, commercial and industrial loads. The Cooperative owns and operates 6,666 miles of distribution (3,807 miles overhead and 2,859 miles underground) and has annual sales of approximately 430,000 MWh.

Project Description

Description: Northern Plains Electric Cooperative has identified 5 overhead to underground conversion projects that can greatly improve the reliability of the system. These projects each benefit the respective service areas with mitigating weather-related outages and providing more reliable contingency feeds from adjacent substations. Undergrounding distribution eliminates impacts from high winds, lightning strikes, ice/frost, winter storms, public accidents and reduces maintenance costs. The majority of the projects identified are associated with 3-phase distribution lines as these are the main backbone of the electric system and provide the most benefit to the membership. Each project description and benefits are outlined in the following pages. A summary map of the project locations is provided in Attachment 1.

Product Information and Build America / Buy America

The projects identified within this application primarily utilize underground distribution cable that is either 4/0 AWG or 500 MCM. The Okonite Company is the manufacturer of the underground cable and they have provided a certification for compliance with the Buy America requirements.

The VISTA switchgear with motor operators utilized in the projects is manufactured by S&C Electric Company. S&C has provided an email stating the switchgear meet the requirements of for Buy America.

Termination elbows required to connections of the underground cable are manufactured in the U.S. per the specification sheet from ABB.

Copies of the specifications and certifications are provided in Attachment 2.

Facilities / Equipment / Job Creation

Installation of the underground distribution and retirement of overhead has been performed by Northern Plains' journeyman lineman on a regular basis as this is work performed on a daily basis. The Cooperative's journeyman lineman will be utilized for the termination, cutover and retirement of the overhead line. A contractor will be hired to install the underground cable, install necessary splices and set underground cabinets. An engineer is required to establish the overall technical plan, perform system studies, specifying materials, staking, easements and coordinating with necessary entities for permitting.

The equipment required by the line crews are standard, bucket trucks, digger derricks, mini-excavators that the Cooperative currently owns as part of its fleet. The contractor will utilize a static plow and a directional boring machine to install the underground cable.

As this project is feasible within the current workforce of the Cooperative, a temporary hire of at least 1 or 2 apprentice journeymen will be pursued to assist in the installations. Temporary hire consists of no more than 1,000 hours/year.

Davis Bacon Act Requirements

Northern Plains' employees are paid wages equivalent to prevailing wages as similar electric distribution cooperatives throughout North Dakota. The journeyman lineman employed with the Cooperative are part of the International Brotherhood of Electrical Workers (IBEW) and have an existing 4-year union contract that identifies wages that are in comparison of other North Dakota electric cooperative IBEW union contracts. Northern Plains will ensure that all contractors who intend to bid on the proposed work will ensure they will meet prevailing wage requirements. Each contractor will need to provide registration with the Secretary of State and the Labor and Human Rights Office.

Proposed Cost Match

Northern Plains is proposing to cost-share 1/3 of the award value. The Cooperative sells less than 4 million MWh annually. Full project budget is provided in the "Project Budget" section.

Expertise

Northern Plains Electric Cooperative has highly trained personnel and qualified operators on staff who are capable and well experienced in the project as defined. The Cooperative has executed Construction Work Plans with over \$27 million of identified projects. The Construction Work Plans focus primarily on converting overhead line to underground. Each project in a work plan must either have a full environmental if not categorical excluded. In addition to the work plan, the Cooperative has successfully completed Hazard Mitigation Grants (HMGs) in coordination with FEMA as the grant administrators.

Ashten Dewald, P.E. is the principal contact for this grant and she is a professional engineer with 10 years of electric distribution experience. Ashten is the current Engineering Manager for Northern Plains. Ashten's resume is provided in Attachment 3.

Environmental Impacts

The environmental impact is identified within the description of each conversion project.

Cost Benefit: There is a multi-factor benefit of undergrounding a line. The maintenance of the underground is significantly less than overhead. This saves maintenance costs on the line in the future. The overhead infrastructure that is currently serving Northern Plain membership is aging to its end of life. This will force the cooperative to either replace the line with overhead or bury it. The new technologies in medium voltage cable insulation are extending the life span of underground cable to a point where it is competing heavily with the overhead technologies. There is also a significant severe weather resistance to underground cable. All of these things together make underground a better long-term option than rebuilding to overhead.

Conversion Project 1:

Description: This shovel-ready project will convert the first 2 miles of 3 phase overhead distribution substation feeder to 500MCM underground distribution on the Turtle Mountain Reservation in Rolette County near Belcourt, ND to improve the reliability and regional resilience by mitigating overhead disruptions caused by weather and non-weather events. It will also improve the capacity to support growth and development in the region. A SCADA ready padmount VISTA switch with motor operators will be located at the substation site to provide quicker and safer power contingency restoration. This project takes place completely within the Turtle Mountain Reservation and will greatly benefit the members in the surrounding disadvantaged community.

Environmental: This project is a part of our existing construction work plan and was environmentally approved by RUS meaning this project was deemed NEPA Compliant. The Turtle Mountain Tribal Historic Preservation Office also has reviewed and approved this project. The environmental impacts will be minimal for this project. The project cable will be installed with use of a directional bore machine or static plow. This will provide minimal ground disturbance. A majority of the land use is tilled farm land and in our existing right of way. The overhead cable that is in this right of way has been in place since the early 1950s and has been maintained appropriately. The conversion of overhead to underground line also benefits the migratory birds by displacing overhead lines that can be hazardous to slow moving birds such as cranes and swans.

DAC's: The Disadvantaged Communities that will benefit from this project are: 38079941800, 38079951700, 38079951600, 38079951900.

Conversion Project 2:

Description: This shovel-ready project will convert 5 miles of 1 phase overhead distribution to 4/0 underground distribution on the Turtle Mountain Reservation to improve the reliability and regional resilience by mitigating overhead disruptions caused by weather and non-weather events. It will also improve the capacity to support growth and development in the region. This conversion will upgrade a single-phase stretch of overhead line to a three-phase underground line which not only helps with weather issues but with phase balancing and voltage support. This line will also tie two substation feeders together to provide firmer support in the event of an unplanned outage or for any planned maintenance activities. Two SCADA ready pad-mount switches will be located at either end of the project to provide quicker switching and contingency power restoration.

Environmental: This project is a part of our existing construction work plan and was environmentally approved by RUS meaning this project was deemed NEPA Compliant. The Turtle Mountain Tribal Historic Preservation Office also has reviewed and approved this project. The environmental impacts will be minimal for this project. The project cable will be installed with use of a directional bore machine or static plow. This will provide minimal ground disturbance. A majority of the land use is tilled farm land and in our existing right of way. The overhead cable that is in this right of way has been in place since the early 1950s and has been maintained appropriately. The conversion of overhead to underground line also benefits the migratory birds by displacing overhead lines that can be hazardous to slow moving birds such as cranes and swans.

DAC's: The Disadvantaged Communities that will benefit from this project are: 38079941800, 38079951700, 38079951600.

Conversion Project 3:

Description: This shovel-ready project will convert 9 miles of 3 phase overhead to 4/0 underground distribution rural Towner County near Rocklake, ND to improve the reliability and regional resilience by mitigating overhead disruptions caused by weather and non-weather events. This project starts at the Rocklake substation and stretches 4 miles south and 5 mile north of the substation. This 3-phase overhead line feeds the all the meters on the Rocklake substation. These lines also provide a contingency feed to the adjacent Rolla substation.

Environmental: This project is a part of our existing construction work plan and was environmentally approved by RUS meaning this project was deemed NEPA Compliant. The environmental impacts will be minimal for this project. The project cable will be installed with use of a directional bore machine or static plow. This will provide minimal ground disturbance. A majority of the land use is tilled farm land and in our existing right of way. The overhead cable that is in this right of way has been in place since the early 1950s and has been maintained appropriately. The conversion of overhead to underground line also benefits the migratory birds by displacing overhead lines that can be hazardous to slow moving birds such as cranes and swans.

DAC's: This project does not take place in a disadvantaged community.

Conversion Project 4:

Description: This project will convert 6 miles of 3 phase overhead distribution to 4/0 underground distribution rural eastern Rolette County to improve the reliability and regional resilience by mitigating overhead disruptions caused by weather events and non-weather events. This line is fed from the Rolla substation and provides 3-phase to multiple farm sites and a wind farm collection site and maintenance building located in northern Rolette County. This line also serves as a contingency feed for the rural area around St. John.

Environmental: This project will need to be environmentally cleared by the NEPA review process. The environmental impacts will be minimal for this project. The project cable will be installed with use of a directional bore machine or static plow. This will provide minimal ground disturbance. A majority of the land use is tilled farm land and in our existing right of way. The overhead cable that is in this right of way has been in place since the early 1950s and has been maintained appropriately. The conversion of overhead to underground line also benefits the migratory birds by displacing overhead lines that can be hazardous to slow moving birds such as cranes and swans. As the NEPA review has not been completed, this project is very similar to the projects that have already received NEPA approval.

DAC's: The Disadvantaged Communities that will benefit from this project are: 38079951700, 38079951600.

Conversion Project 5:

Description: This project will convert 5 miles of 3 phase overhead distribution to 1/0 underground distribution rural Rolette County to improve the reliability and regional resilience by mitigating overhead disruptions caused by weather events and non-weather events. This

conversion will upgrade a single-phase stretch of overhead line to a three-phase underground line which not only helps with weather issues but with phase balancing and voltage support.

Environmental: This project will need to be environmentally cleared by the NEPA review process. The environmental impacts will be minimal for this project. The project cable will be installed with use of a directional bore machine or static plow. This will provide minimal ground disturbance. A majority of the land use is tilled farm land and in our existing right of way. The overhead cable that is in this right of way has been in place since the early 1950s and has been maintained appropriately. The conversion of overhead to underground line also benefits the migratory birds by displacing overhead lines that can be hazardous to slow moving birds such as cranes and swans. As the NEPA review has not been completed, this project is very similar to the projects that have already received NEPA approval

DAC's: The Disadvantaged Community that will benefit from this project are: 38079951700.

Standards of Success

Conversion Project 1:

Objective Goals: This project will immediately improve the reliability to 400 meters on and around the Turtle Mountain Reservation with an extended benefit to the areas around Rolla and St. John. The total benefit will include the contingency switching which will improve the grid response and resiliency to approximately 2,200 meters in northern Rolette County including the Turtle Mountain reservation. This line also will improve the reliability to the port of entry near St. John.

The last five-year average SAIDI value for the project feeder is 1.7 with a high in 2018 (5.4). This project should result in a drop in this number to less than 1. The rest of the three-phase on this feeder is already underground and any outages would be due to overhead single-phase taps that would significantly reduce the number of consumers affected and the duration of the outage.

Overall magnitude and duration of outages are significantly reduced as the underground will have minimal impact from weather events. The frequency of events is also significantly reduced as the primary backbone of the grid is buried with overhead single-phase taps remaining, overall minimizing the number of impacted members.

Conversion Project 2:

Objective Goals: This project will immediately improve the reliability to 170 meters in the northern Turtle Mountain Reservation by converting the single-phase overhead to three-phase underground. This project will allow housing and businesses to expand into the northern part of the reservation without having to worry about reliability issues that can come with having overhead line. This project will tie two feeders together to provide more flexibility during outage and maintenance times. The total benefit will include the contingency switching which will improve the grid response and resiliency to approximately 1,250 meters in northern Rolette County including the Turtle Mountain reservation. This line also will serve as a reliable back feed to the port of entry near St. John.

The last five-year average SAIDI value for the project area is 15.8 with a high in 2022 (42.5). This project should result in a drop in this number to less than 5. The turtle mountain area is prone to frost and ice issues and undergrounding this line will greatly improve the reliability and duration of the outages.

Overall magnitude and duration of outages are significantly reduced as the underground will have minimal impact from weather events. The frequency of events is also significantly reduced as the primary backbone of the grid is buried with overhead single-phase taps remaining, overall minimizing the number of impacted members.

Conversion Project 3:

Objective Goals: This project will immediately improve the reliability to 187 member meters that are fed from the Rocklake substation in northern Towner County. Having 3-phase overhead line leaves these entire feeders susceptible to weather events with extended outage times. Undergrounding these 3-phase lines not only drastically improves reliability for the Rocklake substation but also the adjacent substations where these feeders act as the contingency feed. Underground these lines also removes poles from farm fields that often get hit during farming operations. These types of outages create a public safety issue and can be costly to the member.

The last five-year average SAIDI value due for the project feeders is 2.8 with a high in 2021 (4.5). This project should result in a drop in this number to less than 1. The rest of the main three-phase feeders is already underground and any outages would be due to overhead single-phase taps that would significantly reduce the number of consumers affected and the duration of the outage.

Overall magnitude and duration of outages are significantly reduced as the underground will have minimal impact from weather events. The frequency of events is also significantly reduced as the primary backbone of the grid is buried with overhead single-phase taps remaining.

Conversion Project 4:

Objective Goals: This project will immediately improve the reliability to 33 member meters being fed on this line north of Rolla with an extended benefit to the areas in the northern Turtle Mountain Reservation and St. John. This project will immediately reduce the magnitude, frequency, and duration of grid outages due to weather events and will support the normal and contingency feeds to northern Rolette County. This will also reduce the frequency and duration of outages experienced by the Wind Farm's Operation and Maintenance building. This line also will serve as a reliable back feed to the port of entry near St. John.

The last five-year average SAIDI value due for the project line is 4.3 with a high in 2018 (7.9). This project should result in a drop in this number to less than 1.

Conversion Project 5:

Objective Goals: This project will immediately improve the reliability to 213 member meters being fed on this line near the Canadian border in north central Rolette County. This line will also increase the capacity and reliability to the area by balancing the load that is currently served by a single-phase line.

The last five-year average SAIDI value for the project area is 7.3 with a high in 2022 (21.5). This project should result in a drop in this number to less than 2. The Turtle Mountain area is prone

to frost and ice issues and this area is remote and difficult to travel to in the winter months. Undergrounding this line should result in a significant improvement in outage frequency.

Project Timeline

Conversion Project 1:

January 2024: Order Material (up to 1 year lead time)

January 2024 – March 2025: Route planning, easement work and project staking. Receive material.

May – June 2025: Start Construction in Substation

Mid-June 2025: Start plowing the new cable route

July -August 2025: Terminate the cable and energize

Conversion Project 2:

January, 2024: Order Material (up to 1 year lead time)

January 2024 – March 2025: Route planning, easement work and project staking. Receive material.

May – June 2025: Start Construction in Substation

Mid-July 2025: Start plowing the new cable route

August-September 2025: Terminate the cable and energize

Conversion Project 3:

January 2024 – April 2024: Route planning, easement work and project staking. Receive material.

May 2024: Start Construction in Rocklake Substation if road restrictions allow

June 2024: Start plowing the new cable route

July -August 2024: Terminate the cable and energize

Conversion Project 4:

January, 2024: Order Material (up to 1 year lead time)

January 2024 – May 2025: Route planning, easement work, Environmental Approval and project staking. Receive material.

Mid-June -August 2025: Start plowing the new cable route

August - September 2025: Terminate the cable and energize

Conversion Project 5:

January, 2024: Order Material (up to 1 year lead time)

January 2024 – May 2025: Route planning, easement work, Environmental Approval and project staking. Receive material.

Mid-June -August 2025: Start plowing the new cable route

August - September 2025: Terminate the cable and energize

Project Budget

Conversion Project 1:

Total Budget = \$325,000

Material costs:

Cable = \$150,000

Switches = \$75,000

Termination Equipment = \$30,000

Install Labor Costs:

Contractor = \$40,000

Internal Labor = \$22,000

Admin/Engineering: \$8,000

Conversion Project 2:

Total Budget = \$555,752

Material costs:

Cable = \$321,552

Switches = \$70,000

Termination Equipment = \$60,000

Install Labor Costs:

Contractor = \$65,000

Internal Labor = \$30,000

Admin/Engineering: \$9,200

Conversion Project 3:

Total Budget = \$768,200

Material costs:

Cable = \$529,000

Termination Equipment = \$63,000

Install Labor Costs:

Contractor = \$110,000

Internal Labor = \$58,000

Admin/Engineering: \$8,200

Conversion Project 4:

Total Budget = \$642,000

Material costs:

Cable = \$411,500

Termination Equipment = \$68,000

Install Labor Costs:

Contractor = \$98,000

Internal Labor = \$55,000

Admin/Engineering: \$9,500

Conversion Project 5:

Total Budget = \$401,800

Material costs:

Cable = \$237,600

Termination Equipment = \$60,000

Install Labor Costs:

Contractor = \$65,000

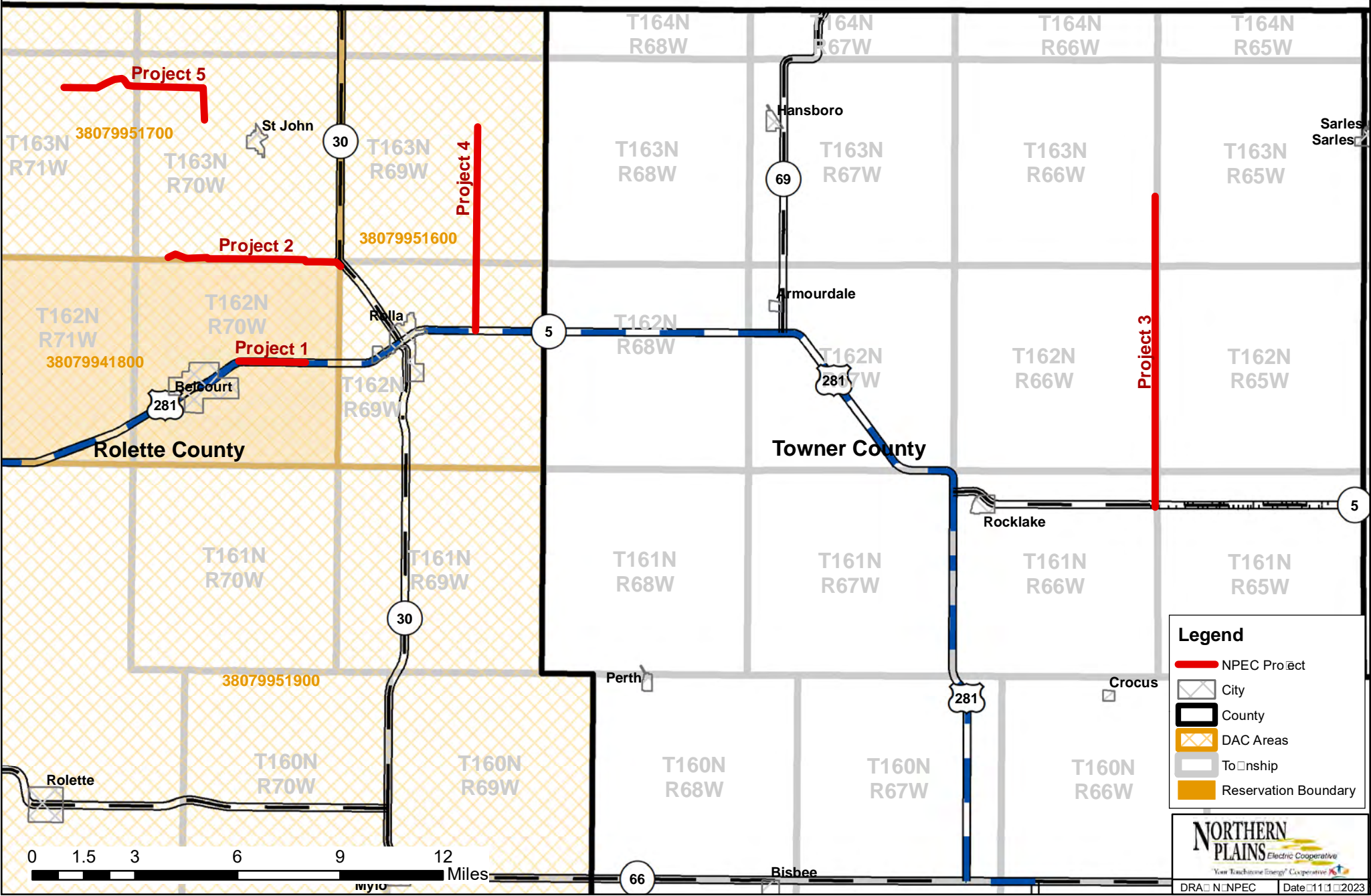
Internal Labor = \$30,000

Admin/Engineering: \$9,200

Total Budget of all 5 Projects: \$2,692,752

Attachment 1

Canada



Legend

- NPEC Project
- City
- County
- DAC Areas
- Township
- Reservation Boundary

NORTHERN PLAINS Electric Cooperative
 Your Tomorrow's Energy. Cooperative.

DRAWN BY NPEC | Date: 11/13/2023

Attachment 2




**THE
OKONITE
COMPANY**

Post Office Box 340
Ramsey, New Jersey 07446
Telephone: (201) - 825-0300
E-Mail: okonite@okonite.com

Buy America Certification

The Okonite Company, Inc. certifies that all its products are manufactured in the United States of America, and that all its products comply with the Buy America requirements of the United States Code and of all regulations which implement the applicable statutory provisions of the Code.

The Okonite Company, Inc.

By: 
John F. Silver
President and COO

Ashten Dewald

From: Cory Kiemele <ckiemele@epsmppls.com>
Sent: Wednesday, March 22, 2023 11:24 AM
To: Ashten Dewald
Subject: FW: [External] FW: S&C Buy America

See below. What additional information do you need?

Cory Kiemele
Energy Product Sales
Cell: 701-351-1695

From: Thomas, Stanley <Stanley.Thomas@sandc.com>
Sent: Wednesday, March 22, 2023 11:02 AM
To: Cory Kiemele <ckiemele@epsmppls.com>
Cc: McInnis, Kristin <Kristin.McInnis@sandc.com>; Kennedy, Cheryl <cheryl.kennedy@sandc.com>; Product Marketing Assignments <ideas-pmktg-sces@iad-prod1.mailer.aha.io>
Subject: RE: [External] FW: S&C Buy America

Hi Corey,

Our product offering will always fall under one of 3 types of definitions, not a combination of 2 or 3: "Iron or Steel," Construction Material, or "manufactured product" as you mention below. We generally consider our products to be "manufactured products" which use a "cost of components" method to evaluate whether we meet the origin requirements.

(B) in the case of manufactured products, that— (i) the manufactured product was manufactured in the United States; and (ii) the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation

Based on this, Vista meets the requirements for a manufactured product for BABA.

Thanks,
-Stan

From: Thomas, Stanley
Sent: Tuesday, March 21, 2023 4:53 PM
To: Cory Kiemele <ckiemele@epsmppls.com>
Subject: RE: [External] FW: S&C Buy America

Hi Cory,

Checking in on an item with respect to the info you provided in blue below. Should be able to get back to you tomorrow.

Thanks,
-Stan



Home > Products > Installation Products > Medium Voltage Utility Solutions > Underground Cable Accessories > Elastimold Underground Cable Accessories

Elastimold Underground Cable Accessories



Elastimold® has one of the largest product offerings in the industry of IEEE 200 loadbreak and deadbreak and 600 Amp and 900 Amp medium voltage EPDM rubber molded products and epoxy components.

[Press Release - ABB advances electrical worker safety with expanded Elastimold solutions](#)

[Elastimold grounding innovation in tED Magazine pages 50-52](#)

Benefits & News

- All products are manufactured in the USA in advanced facilities
- Centralized stocking in the USA
- 100% tested
- Elastimold's brand's long, innovative history includes pioneering such products as extended, repair, and jacket elbows
- Elastimold's accessories, available from 5-138 kV, are used to connect, ground, splice, terminate, and protect underground cable

Products

- Elastimold™ Veri-Spike™ grounding-aid device – NEW
- 200 Amp Deadbreak Elbows
- 200 Amp Loadbreak Elbows
- 600 Amp Elbow Connectors

Attachment 3

Resumes

Confidentiality Statement: Pages [1&2] of this document may contain trade secrets, confidential, proprietary, or privileged information that is exempt from public disclosure. Anything marked in brackets [] shall be deemed confidential.

1. Contact Information

[Ashten Dewald, PE 40209]
Engineering Manager
Northern Plains Electric Cooperative
PO Box 180 Carrington, ND 58421
[1 (701) 652-1852]
[ashtend@nplains.com]

2. Education

1. [Sargent Central Public Highschool]
 - a. Graduated May 2007
2. South Dakota School of Mines and Technology
 - a. Aug 2007 – Dec 2011
 - b. Bachelors of Science in Electrical Engineering

3. Training

North Dakota Professional Engineer

4. Professional Experience

- Engineering Manager Feb 2022-Present
[Northern Plains Electric Cooperative in Carrington, ND]
Oversee the day-to day activities of the engineering department. Work with the engineering department to develop work plans and implement design infrastructure in accordance with current specifications.
- Engineering & Operations Manager Jan 2019 - Feb 2022
[Northern Plains Electric Cooperative in Carrington, ND]
Oversee the day-to day activities of the engineering and operations department. Work with the engineering department to develop work plans and implement design infrastructure in accordance with current specifications. Work with the operations and line personnel to implement the designs and build distribution facilities in a safe and efficient manner.
- System Engineer Dec 2013 – Jan 2019
[Northern Plains Electric Cooperative in Carrington, ND]

TECHNICAL REVIEWERS' RATING SUMMARY

IIJA-01-G

Capacitor Banks, Communications, SCADA Control

Submitted By: McKenzie Electric Cooperative

Date of Application: November 2023

Request for \$4,050,000 Grant

Total Project Costs \$8,100,000

| Rating Category | Weighting Factor | Technical Reviewer | | | Average Weighted Score |
|-----------------------------|---------------------|--------------------|--------------|--------------|---------------------------|
| | | A1 Rating | A2 Rating | A3 Rating | |
| 1. Objective 1 | 6 | 4 | 4 | 4 | 24 |
| 2. Objective 2 | 6 | 4 | 4 | 4 | 24 |
| 3. Objective 3 | 6 | 1 | 4 | 4 | 18 |
| 4. Level of Risk Mitigation | 9 | 3 | 5 | 3 | 33 |
| 5. Facilities and Equipment | 3 | 1 | 3 | 4 | 8 |
| 6. Budget | 9 | 2 | 3 | 4 | 27 |
| 7. Jobs Created | 3 | 2 | 1 | 4 | 7 |
| 8. Environmental Impacts | 3 | 4 | 1 | 4 | 9 |
| 9. Expertise | 6 | 1 | 5 | 4 | 20 |
| <hr/> Total | | 126 | 189 | 195 | 170 |

OVERALL TECHNICALLY SOUND

GOOD (IF > 170)

FAIR (160-170)

QUESTIONABLE (IF < 160)

| Mandatory Requirements | TR1 Yes | No | TR2 Yes | No | TR3 Yes | No |
|--|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| Eligible Entity and Project | | | | | | |
| Applicant and project eligible | x | | x | | x | |
| Research, Technology and Economic Security | | | | | | |
| Applicant demonstrates compliance with Build American/Buy America and provides information related to foreign national participation and ownership | x | | | x | x | |
| National Environmental Policy Act | | | | | | |
| Applicant has provided documentation of NEPA compliance or completed environmental questionnaire requesting a Categorical Exclusion from the NEPA compliance officer | x | | | x | x | |
| Davis-Bacon Act | | | | | | |
| Applicant has demonstrated that all laborers paid by the applicant and subcontractors comply | x | | x | | x | |
| Cost Share | | | | | | |
| Applicant meets the required cost-share of 1/3 of award value | x | | | x | x | |

1. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce magnitude and duration of grid outages. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 4) *MEC does a very good job of explaining the benefits of SCADA control. They do not make it clear regarding the magnitude or frequency of interruptions to critical customers. MEC does discuss the quantity of new staff to manage the completed project.*

Reviewer TR2 (Rating 4)

Reviewer TR3 (Rating 4) *Applicant includes reduction in outages thru use of capacitor banks. Communication outage data was provided. All electrical outage data should have been provided.*

2. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Reduce frequency and impacts of grid outages. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 4) *MEC does a very good job of explaining the benefits of SCADA control. They do not make it clear regarding the magnitude or frequency of interruptions to critical customers. MEC does discuss the quantity of new staff to manage the completed project.*

Reviewer TR2 (Rating 4)

Reviewer TR3 (Rating 4) *Applicant suggests reduced frequency of outages using capacitor banks. Outage data should have been provided.*

3. The objectives or goals of the proposed project with respect to clarity and consistency with Transmission Authority goals of projects: Provide lower-cost energy access to disadvantaged or underserved communities. 1-Very Unclear, 2-Unclear, 3-Clear, 4-Very Clear, 5-Exceptionally Clear

Reviewer TR1 (Rating 1) *MEC is very unclear on this topic.*

Reviewer TR2 (Rating 4)

Reviewer TR3 (Rating 4) *Applicant serves disadvantaged and underserved communities and will provide lower energy costs to rural communities and Indian tribal communities. Although the applicant suggests generator costs and interruptions can be avoided leading to lower cost energy there is no data, ie, operational savings, that support the claim. This is not a driving factor for lower energy costs.*

4. Level of risk mitigation: Applicant has provided a cost/benefit analysis demonstrating, based on stated objectives, how their project will reduce the frequency and/or the magnitude and duration of grid outages. 1-No Impact, 2-Small Impact, 3-Likely Impact, 4-Most Likely Impact, 5-Significant Impact

Reviewer TR1 (Rating 3) *MEC has not provided an estimated cost/benefit analysis in a monetary sense. They have however stated the expected improvement in response time to grid outages.*

Reviewer TR2 (Rating 3)

Reviewer TR3 (Rating 4) *The project includes opinions of costs of capacitor bank and communications installation. cost/benefit advantage is not presented.*

5. Applicant has demonstrated sufficient resources to complete the project: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 1) *MEC does not discuss resources other than monetary.*

Reviewer TR2 (Rating 4)

Reviewer TR3 (Rating 4) *Applicant will self-perform construction and commissioning to complete the project. Engineering contractor use is expected.*

6. The proposed budget is comprehensive and sufficient relative to the outlined work and the timetable, with higher priority given to applicants who exceed the minimum required cost-share. 1-Not Sufficient, 2-Possibly Sufficient, 3-Likely Sufficient, 4-Most Likely Sufficient, 5-Certainly Sufficient

Reviewer TR1 (Rating 2) *The MEC budget is not detailed or complete. Appears to only address equipment costs.*

Reviewer TR2 (Rating 4)

Reviewer TR3 (Rating 4) *Applicant utilized construction and material pricing from internal historical information.*

7. Applicant has quantified temporary and permanent jobs created as part of the project, with higher priority given to applicants with higher amounts. 1-Not Achievable, 2-Possibly Achievable, 3-Likely Achievable, 4- Most Likely Achievable, 5-Certainly Achievable

Reviewer TR1 (Rating 2) *MEC has only stated rough estimates for the creation of additional jobs. They do not differentiate between temporary and permanent jobs.*

Reviewer TR2 (Rating 2)

Reviewer TR3 (Rating 4) *Applicant does not mention hiring permanent or temporary staff from the communities. It seems plausible that additional staff will be required to plan, procure, construct, commission and operate the assets including communication system and SCADA.*

8. Applicant has identified any environmental impacts and demonstrated efforts taken to mitigate those impacts. 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *MEC states that they are committed to NEPA and this project is not expected to create any new environmental disturbances.*

Reviewer TR2 (Rating 1)

Reviewer TR3 (Rating 4) *Applicant confirms environmental impacts or following NEPA guidelines will be followed. Additionally, the scope of the project does not appear to have an environmental impact.*

9. The background and experience of the project principals with regards to technical qualifications and competence is: 1-Very Limited, 2-Limited, 3-Adequate, 4-Better Than Average, 5-Exceptional

Reviewer TR1 (Rating 4) *MEC has not responded to this topic.*

Reviewer TR2 (Rating 5)

Reviewer TR3 (Rating 4) *Applicant will hire a construction contractor thus relying on them for technical expertise. Technical expertise is expected but not always garnered with the contractor. Technical scope is not difficult.*

Section C. Overall Comments and Recommendations:

Please comment in a general way about the merits and flaws of the proposed project and make a recommendation whether or not the project is technically sound.

Reviewer TR1: *MEC has done a great effort in obtaining recommendation letters. The budget information is lacking in detail and completeness. With the proposal as stated, they are relying on contracted engineering, procurement, project coordination and reporting.*

Reviewer TR2 *This proposal satisfies a majority of Objective and Metric requirements and is technically feasible.*

Reviewer TR3 *Applicant has proposed a reasonable project that is achievable and is more complex technically. The project should result in less outages.*

North Dakota Transmission
Authority

North Dakota Industrial Commission

BIL 40101(d) Application

Project Title: McKenzie Electric Cooperative
Capacitor Banks, Communications, SCADA
Control

Applicant: McKenzie Electric Cooperative

Date of Application: November 20, 2023

Amount of Grant Request: \$4,050,000

Total Amount of Proposed Project:
\$8,100,000

Duration of Project: 2024-2025

Point of Contact (POC):
Karl Aaker
Director Of Engineering

POC Telephone: 701-444-6741

POC Email: kaaker@mckenzieelectric.com

POC Address:
PO Box 649
3817 23rd Ave. NE
Watford City, ND 58854

TABLE OF CONTENTS

Please use this table to fill in the correct corresponding page number.

| | |
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| Applicant Description | 3 |
| Project Description | 3 |
| Standards of Success | 4 |
| Project Timeline | 8 |
| Project Budget | 9 |
| Supporting Documents | 10 |

Applicant Description

Provide a description of the applicant (i.e., type of entity, corporate structure, MWh sold annually, etc.).

Project Description

Provide a description of the project with enough detail to allow the reviewers to adequately evaluate the project.

Standards of Success

Provide a description of how the proposed project will fulfill any or all of the program objectives.

Project Timeline

Provide a project timeline including anticipated start date, significant project milestones, and anticipated project completion date or project duration.

Project Budget

Provide a total project budget, clearly describing the amount of funding requested from NDTA.

Applicant Description

McKenzie Electric Cooperative, Inc. (MEC) is a rural, not for profit electric cooperative governed by a board of nine member-elected directors serving portions of seven counties in northwestern North Dakota and Montana, including service to the North, West, and South Segments of the Fort Berthold Indian Reservation. The Cooperative's first lines were energized in 1947, two short years after the Cooperative's incorporation in 1945. Headquartered in Watford City, N.D., McKenzie Electric provides reliable power to 4,718 members with a total meter count of 13,430, peak demand of 785 MW, and 5,434,578 MWH annually. As a cooperative dedicated to improving the quality of life of its member owners, McKenzie Electric supports the communities in which it operates, by offering safe, reliable, and affordable electricity.

Project Description

McKenzie Electric Cooperative has evaluated the need for additional 115 KV capacitor banks and communication line (Optical Ground Wire or OPGW) upgrades along with commissioning Supervisory Control and Data Acquisition (SCADA) control to our entire substation fleet. With the mission to provide safe, reliable, and affordable electricity to our membership, we recognize the need to respond to critical contingencies with system improvements and modernization technologies. Having recently updated our planning model, we identified the need to install four (4) 115 KV capacitor banks, and upgrade 23.5 miles of communication lines to maintain the stability of our electric grid. Our models indicated delivery point voltages as low as 0.92% of nominal during certain contingencies. With the proposed capacitor banks, we will maintain appropriate transmission voltages. With a growing electrical system, using available technologies to remotely monitor and control equipment offers our members increased reliability and improved response for electrical outages. With reliable communication and SCADA monitoring and control, outages can be responded to immediately, if not avoided all together. Additionally, when working an outage, dispatch personal will be able to support field operations and reduce time spent traveling to and from equipment which can be safely operated remotely. The overall benefit of SCADA control will yield less outages through advanced alarming, reduced outage duration by cutting back on travel time and remote diagnostics and reduce the frequency of outages through optimization of equipment settings and alarms.

Project Summary

- 115 KV Capacitor Banks
 - Proposed Delivery Area
 - Two (2) for Kummer Ridge
 - One (1) for Patent Gate
 - One (1) for Watford City
 - Specifications: 15MVAR, 115 KV, Single Stage.
- OPGW Installation (23.5 Miles)
 - Garden Creek to Banks Transmission Line and OPGW Upgrade
 - Station 8 and Grail Substation OPGW Interconnection
 - Figure 4 to Moccasin Creek OPGW Upgrade
- SCADA Control (55 Substations)
 - Upgrade equipment at Rough Rider Substation for SCADA functionality
 - Upgrade equipment at Mountain Substation for SCADA functionality
 - MEC has 10 additional substations to be completed through other projects

Standards of Success

Capacitor Banks

The installation of four (4) 115 KV capacitor banks will fulfill all three program objectives as detailed below.

- Objective 1 and 2: 115 KV capacitor banks reduce the magnitude, duration, and frequency of grid outages by providing voltage support at the transmission level.
 - All MEC members (4,718 members, 13,430 meters), benefit from improved transmission reliability and resiliency.
 - During and prior to transmission outage events, voltage support allows grid operational flexibility by allowing critical transmission sources to be reconfigured to maintain or restore power. This reconfiguration occurs proactively to avoid outages as well as reactively to restore outages. Restoring an outage via transmission switching generally yield a large number of members restored through each switching operation.
- Objective 3: Capacitor banks modernize the electric grid by eliminating wasted energy measured as power factor, and stabilizing system voltages.
 - MEC strives to maintain our overall system power factor over 95%. By maintaining good power factor more households can be served through transmission system during critical outage contingencies.
 - Wind power is part of our energy supplier's mix, which requires capacitors to compensate for the inherent variability of non-dispatchable

renewable energy. Weather conditions often result in low output which creates a critical contingency in our already generation constrained region. Capacitor banks provide voltage support that allows the transmission system to maintain stable operation.

- Outages can be costly for households in many ways including the cost of generator ownership, maintenance, and operation, as well as the cost of lifestyle and livelihood interruptions to in home businesses, remote workers, schooling, and many other activities. By avoiding or reducing the impact of outages, households experience less financial burden.
- The engineering, construction, commissioning, maintenance, and operation of the proposed capacitor banks will require over 12 workers within numerous trades, and professions in addition to material manufacturing workers.

OPGW Installation

Improving communications with dedicated OPGW on transmission lines will fulfill all three program objectives as detailed below.

- Objective 1 and 2: Through the use of communication infrastructure, MEC reduces the magnitude, duration, and frequency of grid outages with remote monitoring to avoid and detect outages and remote operating of field equipment to promptly restore outages.
 - Installing OPGW from Garden Creek to Banks will provide direct communication to about 80% of our substation fleet. Without this solution, MEC is dependent on leased communication lines which have historically been unreliable with three (3) significant interruptions in the last two (2) years. During such an interruption, MEC loses SCADA connectivity used to efficiently monitor the electric grid and provide vital remote response to grid outages.
 - The installation of OPGW to Station 8 and Grail will provide direct communication to two (2) critical gas processing facilities. These facilities as well as many others benefiting from these projects, are critical facilities that provide vital natural gas used for the heating of homes not only in our region but across the country in addition to providing fuel for power generation.
 - Figure 4 to Moccasin Creek OPGW upgrade will create a communication loop servicing the Fort Berthold Indian Reservation (FBIR). A separate fully funded project is bringing increased power capacity and radial OPGW communications onto the FBIR. This project will convert that radial communication into a high availability looped communication network.

- Objective 3: OPGW is a fiber optic communication technology that allows utilities to modernize transmission lines with cost effective communication lines to aid in the operation of the electric grid.
 - Providing power in rural North Dakota, reliable communications can be a challenge with some remote areas not having accessibility to telecom utilities or wireless communications. MEC desires our OPGW network to overcome rural communication limitations and be as resilient and reliable as our electric system.
 - MEC receives numerous inquiries regarding distributed generation. To support these types of requests, a reliable communication network must be in place to provide monitoring and control of that generation, to ensure high availability.
 - The engineering, construction, commissioning, maintenance, and operation of these communication lines will require over 12 workers in addition to material manufacturing workers.

SCADA Control

SCADA Control deployment will fulfill all three program objects as detailed below.

- Objective 1 and 2: Implementing SCADA control provides a technology to reduce the magnitude, duration, and frequency of grid outages.
 - SCADA control is capable of effective prevention of avoidable grid outages through proactive identification of equipment or grid issues and allows for remote response to those issues. This is done in real time and prevents some grid outages entirely. During weather events, alternative settings may be initiated remotely to help avoid sustained outages or reduce power disruptions.
 - SCADA is an immediate response technology for grid outages. Without needing to roll a truck, a SCADA operator identifies where, what, and sometimes why an outage occurred and then restores the outage remotely or supports field personal with restoration. This yields a significantly shorter outage duration for members. MEC estimates that for applicable outages, the average outage duration may be reduced by 149 minutes per occurrence per meter.
- Objective 3: SCADA Control is a grid modernization project that offers the benefit of lower electric grid operating costs which can be passed on to our members. MECs mission statement is to provide safe, reliable, and affordable electricity. Through this project we will be accomplishing all three of these important missions.
 - As a rural cooperative, we serve a vast region of western North Dakota including several communities on the Fort Berthold Indian Reservation. Having SCADA control over our field equipment will allow us to better

monitor our electric grid in these remote communities as well as respond to outages more promptly.

- Along with the implementation of SCADA control, which we estimate requires over eight (8) workers, we will be training existing linemen and technicians as well as future grid operators. We will take full advantage of the functionality offered by SCADA which necessitates our staff to be well trained in its safe operation.
- We envision there may be opportunities for additional staff such as SCADA operators and dispatchers upon completion of SCADA control, which will offer additional jobs in the communities we serve.

Project Implementation

- As a transmission owner and distribution provider, MEC is very familiar with the design, construction, and operation of all proposed projects. With twenty (20) medium voltage capacitor banks and eight (8) 115 KV capacitor banks already deployed on our system, MEC takes pride in maintaining a transmission system with good power factor and stable voltage. With the additional capacitor banks, MEC will further address these key attributes despite power delivery challenges outside of our control.
- As our electric system expands, it is paramount that MEC also expand and improve our communication network. We accomplish this by including OPGW in all standard transmission line designs and seek opportunities to improve the reliability and resiliency of our communication through important network loops and upgrades.
- MEC substations are SCADA ready, however existing functionality is limited to monitoring only. With the proposed project, we will implement SCADA control to all substations. MEC is currently performing a pilot project for 3 substations to commission SCADA control which readies MEC for continued deployments in 2024 and 2025. Additionally, MEC is pursuing a separate grant to deploy SCADA to distribution line equipment such as reclosers, regulators, capacitors, etc. If awarded, it would integrate positively with all other proposed projects.

Project Compliance

- McKenzie Electric is committed to comply with all project requirements including Build America/Buy America (BABA) provision for all required materials and construction, National Environmental Policy Act (NEPA) for all required permitting, although our project as presented does not create any new disturbance on lands, nor any new emissions or discharges, and Davis-Bacon Act (DBA) through competitive bidding processes and rate reviews.

Project Budget

| Project Categories | 2024 | 2025 | Total |
|--|---------------------|---------------------|---------------------|
| Capacitor Banks (3) | \$ 3,000,000 | \$ 1,000,000 | \$ 4,000,000 |
| Garden Creek to Banks Kummer Ridge to Station 8/Grail Figure 4 to Moccasin OPGW | \$ 1,050,000 | \$ 1,050,000 | \$ 2,100,000 |
| SCADA Control (55 Subs) | \$ 1,000,000 | \$ 1,000,000 | \$ 2,000,000 |
| Total Project Cost | \$ 5,050,000 | \$ 3,050,000 | \$ 8,100,000 |
| McKenzie Cost Share (50%) | | | \$ 4,050,000 |

McKenzie Electric Cooperative is committed and prepared to provide 50% cost share for the total project cost. Some of these required funds are already allocated in anticipation for grant approval in our 2024 budget. Any additional funds needed will be formally added to our 2024 and 2025 budgets, respectively.

Cost opinions are prepared and provided along with application for reference. For SCADA control, each substation is estimated at \$20,000/each based on current pilot project progress.

Supporting Documentation

Project Timeline

UMPC Letter of Support

BEPC Letter of Support

Stanley Consultants Letter of Support

WAPA Letter of Support

WAPA PV Concerns

Voltage Modeling Results and Recommendations

SCADA Reliability Metrics

McKenzie Electric Service Territory (With Substations)

General Arrangement for Capacitors

Estimates

UPPER MISSOURI

POWER COOPERATIVE A Touchstone Energy® Cooperative 

111 2nd Ave. SW • Sidney, MT 59270 • 406.433.4100

North Dakota Transmission Authority
600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

November 20th, 2023

Re: McKenzie Electric Cooperative Inc. Capacitor Banks, Communications, and SCADA Control

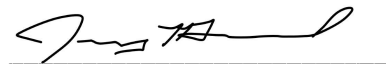
Upper Missouri Power Cooperative (Upper Missouri) is pleased to support McKenzie Electric Cooperative Inc.'s (McKenzie) project, "Capacitor Banks, Communications, and SCADA Control" proposed in the ND Transmission Authority BIL 40101(d) application.

Upper Missouri is a generation and transmission cooperative (i.e., a "G&T") supplying wholesale electricity to its 11 member-owner distribution cooperatives (the Member-Owners or Member Systems), six in eastern Montana and five in western North Dakota. The 11 Member Systems serve more than 76,000 meters – farms, ranches, homes, and businesses – in 37 counties covering a geographic area of almost 55,000 square miles. Upper Missouri's headquarters are located in Sidney, Montana. McKenzie is one of the eleven distribution cooperatives served by Upper Missouri.

Large portions of territory served by Upper Missouri's region have experienced substantial growth over the last two decades, primarily due to oil, gas, and other related services. Due to this growth, Upper Missouri recognizes the need for additional power factor correction (capacitor banks) in McKenzie Electric's service territory. The need for these types of projects has been discussed and encouraged by Western Area Power Administration (WAPA) and Basin Electric, both of which have studied this region in detail. Upper Missouri is also supportive of the communication and SCADA control portions of this project as they will improve McKenzie's ability to operate their system.

Finally, Upper Missouri is encouraged by McKenzie's intent to respond with proposed facilities and technologies to mitigate the effect of regional power supply constraints. Upper Missouri will continue to work with McKenzie Electric and other regional power supply providers to communicate reliability concerns. Upper Missouri does not commit to any financial support for these projects but will support McKenzie through collaboration with power suppliers and providing requested system information as available.

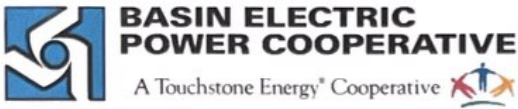
Sincerely,



Jeremy Mahowald
General Manager
Upper Missouri Power Cooperative

11-20-2023

Date



11/20/2023

Re: McKenzie Electric Cooperative Inc. Capacitor Banks, Communications, and SCADA Control

Basin Electric Power Cooperative (BEPC) offers this letter of support to McKenzie Electric Cooperative Inc (MEC) in their proposed application to the ND Transmission Authority BIL 40101(d) application. MEC's proposed project, involving Capacitor Banks, Communications, and SCADA Control would be a beneficial project to the region. BEPC has analyzed primary constraints and key transfer paths across this area and has concluded that contingencies in this area may lead to low voltage at MEC delivery points, necessitating mitigative actions.

MEC's project is anticipated to enhance the stability and voltage profile of their transmission system and improve the reliability of MEC's communication network for remote substation control deployment. Considering the consistent growth in electrical demand experienced by BEPC and pending critical power supply enhancements, MEC's project is expected to alleviate potential low voltage events for various contingent events.

We commit to collaborating with MEC on observed power constraints or emergent contingencies identified. This would empower MEC to respond with all available facilities and technologies to mitigate the effect on end user members.

Sincerely yours,

/s/

A handwritten signature in black ink, appearing to read "Jeremy Severson", with a long horizontal flourish extending to the right.

Jeremy Severson
Vice President Transmission
Basin Electric Power Cooperative

Cc:

Gavin McCollam
Matt Ehrman
Todd Brickhouse

November 20, 2023

Mr. Karl Aaker
Director of Engineering
3817 23rd Ave. NE
Watford City, ND 58854

SUBJECT: North Dakota Transmission Authority BIL 40101(d)

Dear Mr. Aaker:

I am writing in support of McKenzie Electric Cooperative's (McKenzie) North Dakota Transmission Authority BIL 40101(d) Application. Upon reviewing your scope of work and reasoning, I support your application to the North Dakota Transmission Authority for improvements to your system by adding 115kV capacitor banks, improving system communications, and integrating SCADA control into your substation.

Planning by multiple entities has indicated that a low voltage condition is possible at delivery points across the McKenzie System which could result in system-wide outages and impacts. The results from the preliminary transmission study recommend 115kV capacitor banks be installed at four locations throughout the system to support system voltage and maintain normal operation. This low voltage condition can be contributed to an increase in renewable-based generation (specifically wind generation). Additional capacitor banks on the system will allow McKenzie to respond to potential electric supply variability as a result of additional renewable generation.

In addition, expansion of the communications and SCADA system, through SCADA Control enhancement and OPGW additions and upgrades, will provide significant benefits to the system, resulting in a reduced quantity and frequency of outages. Remote control and monitoring of equipment will reduce response time significantly by allowing for remote sectionalizing and outage diagnosis prior to crew deployment.

The aforementioned system improvements will assist McKenzie in becoming a more resilient system with fewer outages. Please contact me regarding any questions of my findings or opinions at 563.264.6739 or at kammeric@stanleygroup.com.

Sincerely,



Eric D. Kamm, MBA
Electrical Planner
Stanley Consultants, Inc.



Department of Energy
Western Area Power Administration
Upper Great Plains Customer Service Region
P.O. Box 35800
Billings, MT 59107-5800

B4400.BL

North Dakota Transmission Authority
600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

Western Area Power Administration – Upper Great Plains Region (WAPA-UGPR) is pleased to express support for the McKenzie Electric Cooperative, Inc. (MEC) proposal to the North Dakota Transmission Authority (NDTA) for implementation of new capacitor banks, communications, and Supervisory Control and Data Acquisition (SCADA) control systems in its service territory, as part of a grid modernization project utilizing Bipartisan Infrastructure Law – Section 40101(d) funding allocated to the State of North Dakota by the U.S. Department of Energy (DOE) Grid Deployment Office (GDO).

WAPA, a Power Marketing Administration (PMA) within DOE, markets wholesale electric hydropower and provides an integral transmission system that delivers power to rural economies, Native American tribes, Federal and state agencies, and others who, in turn, serve more than 40 million Americans. As one of the ten largest transmission organizations in the Nation, owning and operating over 17,000 miles of high-voltage transmission lines, as well as WAPA-UGPR serving as a Transmission Operator in North Dakota, WAPA is keenly aware of the challenges the multi-use transmission system faces from rapid load growth and constrained generation resources. The project proposed by MEC is a proactive step towards improving voltage strength and stability with static reactive support, as well as enhancing system operational flexibility and responsiveness with remote substation controls. WAPA-UGPR regularly assesses operating horizon transmission constraints and, it is clear, the project proposed by MEC will directly improve potential low voltages affecting customers that may result following unplanned losses of key electric power transfer paths serving northwest North Dakota.

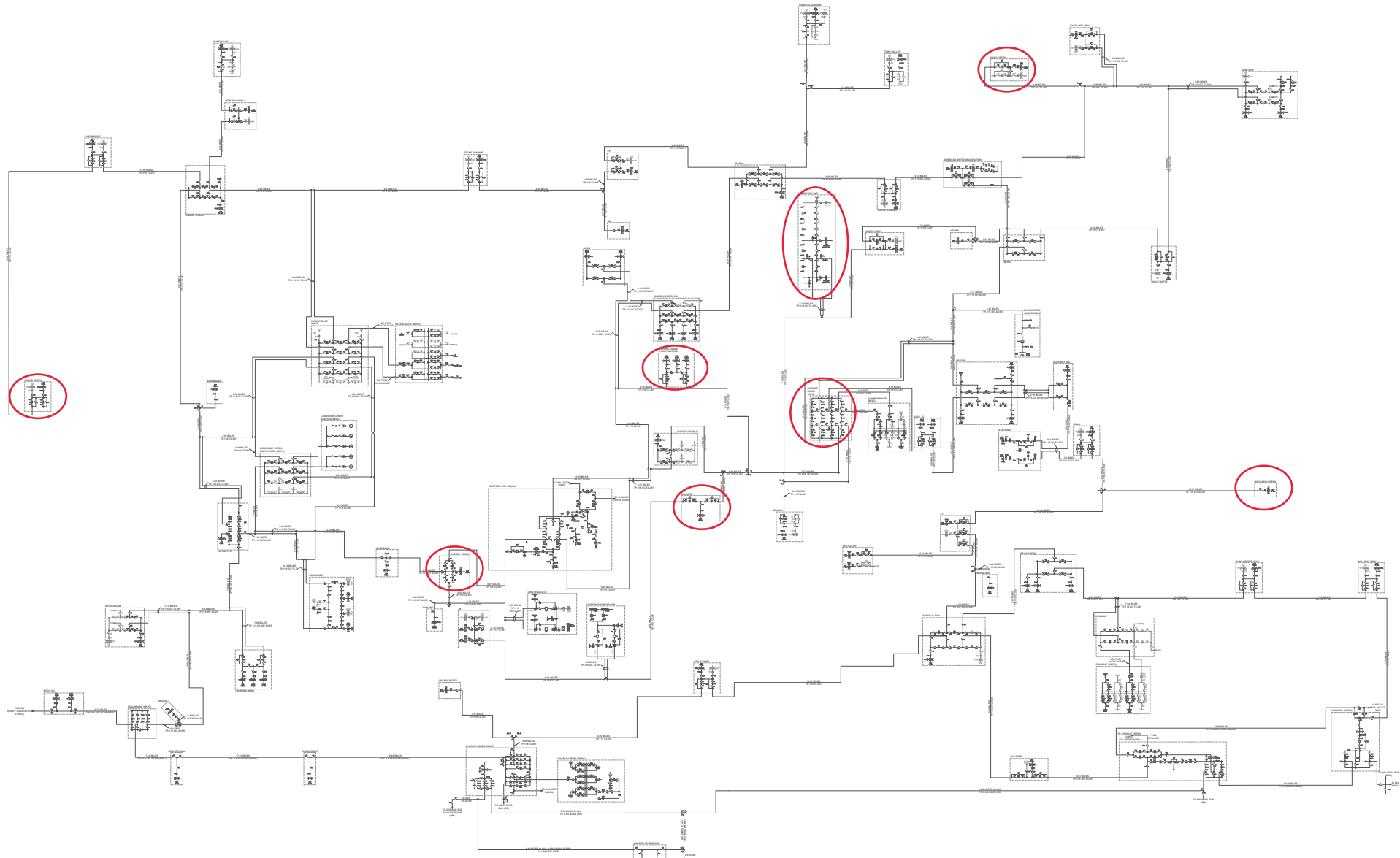
WAPA-UGPR will continue to work with MEC to assess and communicate reliability challenges in the operating horizon and beyond. WAPA-UGPR is committed to supporting MEC efforts with its technical expertise and analytical capabilities to minimize the risk of electric service interruptions, but does not commit to any cost matching requirements as part of its proposal. Through collaboration, WAPA-UGPR may assist MEC to best prepare and respond with its available electrical facilities and technologies to mitigate adverse impacts on end-use customers.

Sincerely,

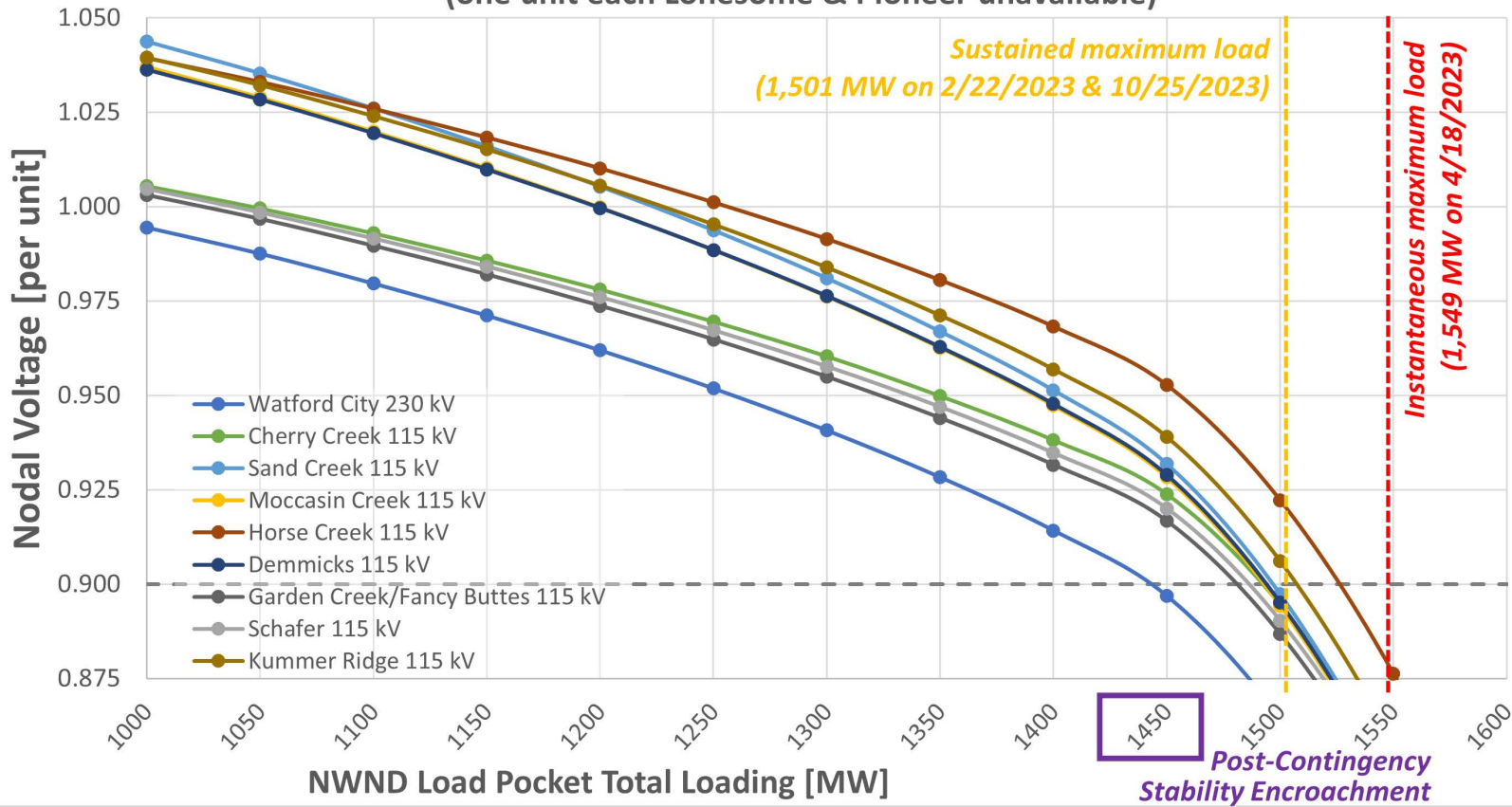
Christopher M.
Colson 

Digitally signed by
CHRISTOPHER COLSON
Date: 2023.11.17 10:25:01 -07'00'

Transmission System Planning Manager
Western Area Power Administration-
Upper Great Plains Region



Winter <10% wind + Loss of CCR-PG 345 kV (one unit each Lonesome & Pioneer unavailable)



L/O PATENT GATE - CHARLIE CREEK 345 kV LINE

| Substation | BEPC | | | without additional Cap Banks | | | with additional Cap Banks | | |
|----------------------|--------|--------|---------|------------------------------|--------|---------|---------------------------|--------|---------|
| | Vbase | Vcont | Vchange | Vbase | Vcont | Vchange | Vbase | Vcont | Vchange |
| Kummer Ridge 345 | 1.0030 | 0.9625 | -0.0405 | 1.0059 | 0.9266 | -0.0793 | 1.0273 | 0.9724 | -0.0549 |
| Patent Gate 345 | 1.0040 | 0.9649 | -0.0391 | 1.0074 | 0.9342 | -0.0732 | 1.0213 | 0.9705 | -0.0508 |
| Watford City 230 | 1.0070 | 0.9302 | -0.0768 | 1.0063 | 0.9458 | -0.0605 | 1.0131 | 0.9576 | -0.0555 |
| Round Up 345 | 1.0070 | 0.9950 | -0.0120 | 1.0083 | 1.0034 | -0.0049 | 1.0146 | 1.0080 | -0.0066 |
| Round Up: | | | | | | | | | |
| Moccasin | 0.9590 | 0.9462 | -0.0128 | 0.9275 | 0.9213 | -0.0062 | 0.9796 | 0.9712 | -0.0084 |
| Watford City: | | | | | | | | | |
| Schafer | 1.0160 | 0.9544 | -0.0616 | 1.0057 | 0.9215 | -0.0842 | 1.0327 | 0.9744 | -0.0583 |
| Garden-FB | 1.0200 | 0.9574 | -0.0626 | 1.0040 | 0.9513 | -0.0527 | 1.0100 | 0.9617 | -0.0483 |
| Patent Gate: | | | | | | | | | |
| TBGARDEN | 0.9820 | 0.9453 | -0.0367 | 0.9865 | 0.9135 | -0.0730 | 1.0216 | 0.9718 | -0.0498 |
| Haybutte | 0.9990 | 0.9630 | -0.0360 | 1.0010 | 0.9323 | -0.0687 | 1.0156 | 0.9693 | -0.0463 |
| Kummer Ridge: | | | | | | | | | |
| Demicks Lake | 0.9880 | 0.9453 | -0.0427 | 1.0010 | 0.9121 | -0.0889 | 1.0391 | 0.9774 | -0.0617 |
| Berg | 1.0130 | 0.9688 | -0.0442 | 1.0025 | 0.9142 | -0.0883 | 1.0395 | 0.9781 | -0.0614 |
| COYOTCHR | 1.0020 | 0.9599 | -0.0421 | 1.0065 | 0.9559 | -0.0506 | 1.0122 | 0.9658 | -0.0464 |
| Grail | 0.9970 | 0.9552 | -0.0418 | 1.0046 | 0.9192 | -0.0854 | 1.0320 | 0.9729 | -0.0591 |

Vbase: Voltages under normal condition

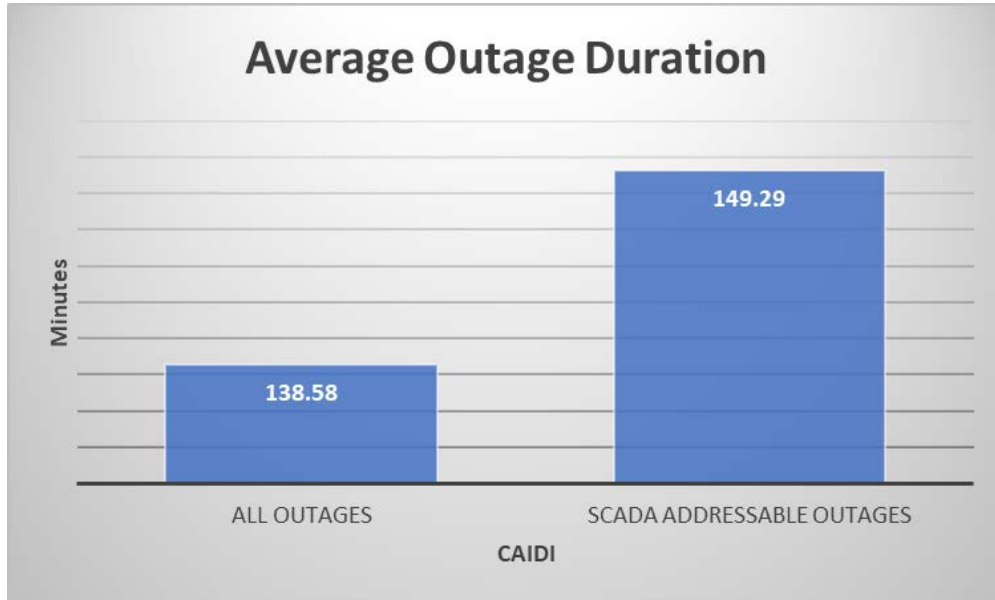
Vcont: Voltages after the L/O Patent Gate - Charlie Creek 345 kV

Vchange: difference of Vbase and Vcont

| Additional Cap banks (15 MVAR) | Notes |
|--------------------------------|--|
| Moccasin 115kV | Funded through other project |
| Demmicks Lake 115kV | |
| Berg 115kV | |
| Banks 115kV | |
| Watford City Area | Recommended to improve voltage further |

SCADA Reliability Metrics McKenzie Electric Cooperative, Inc.

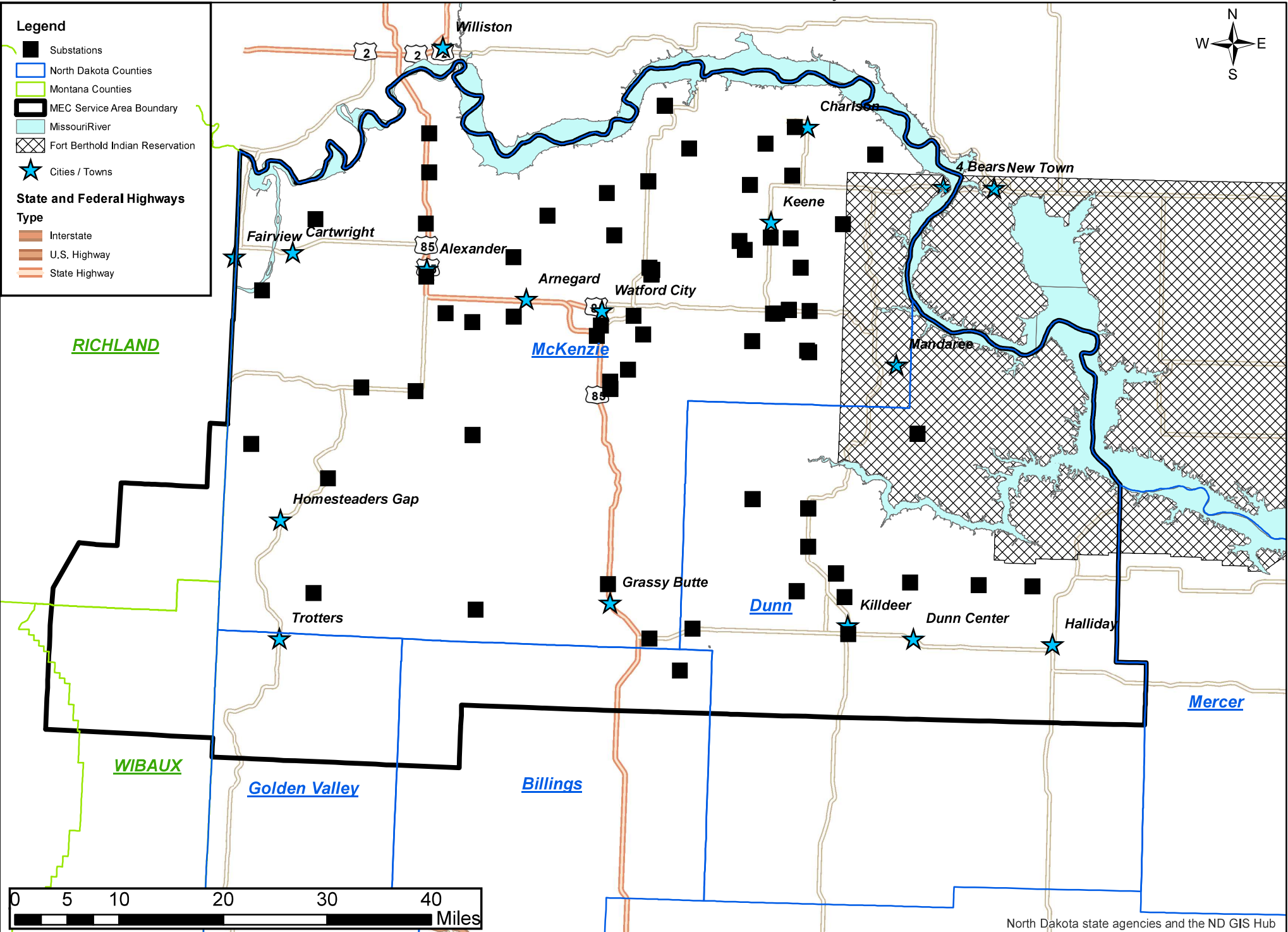
| <i>MEC Outage Indices</i> | |
|---------------------------|---------|
| CAIDI Category | Minutes |
| All Outages | 138.58 |
| SCADA Addressable Outages | 149.29 |

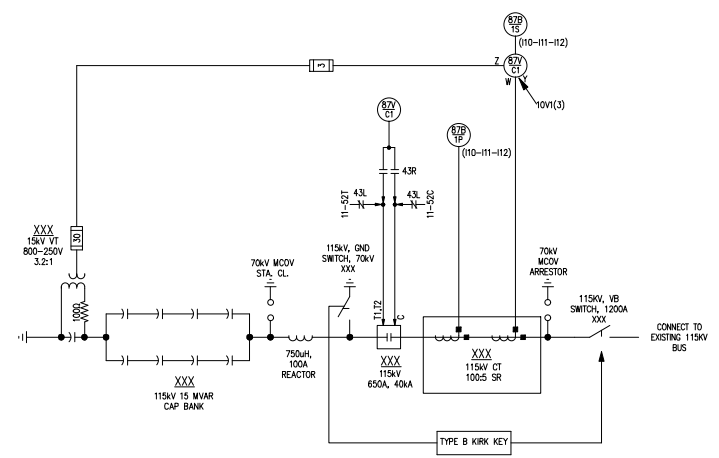
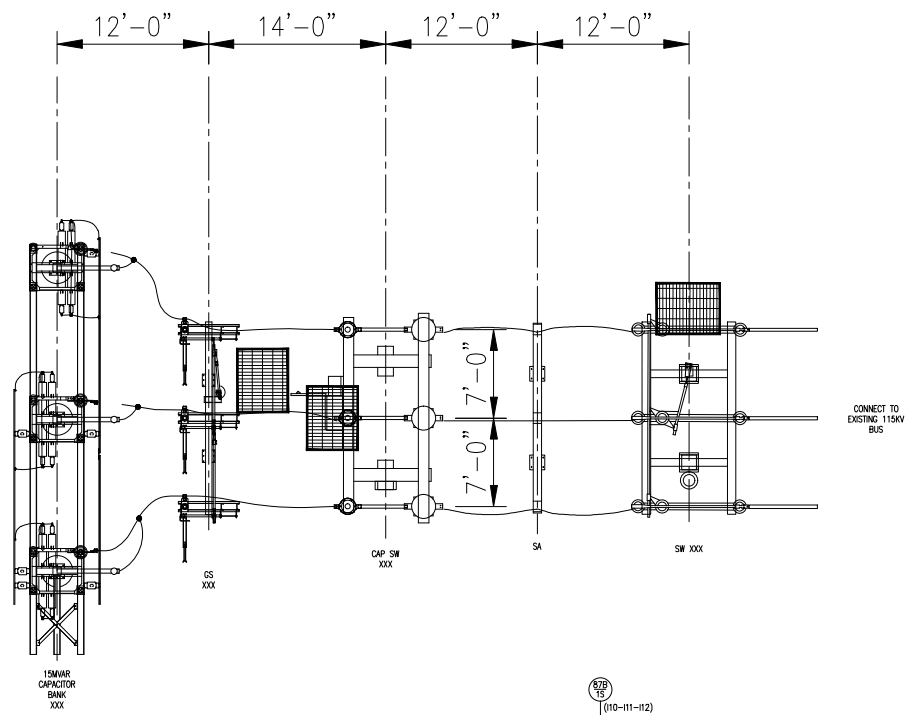


Without having SCADA operation at all of our substations, McKenzie Electric has to dispatch crews to outages that could in the future be restored through SCADA operations. The above numbers reflect our averages from more than 6 years of data. The SCADA addressable outages are events where we could have restored power through SCADA operation.

McKenzie Electric Service Territory

November 2023





CONCEPTUAL



8000 South Chester Street, Suite 400, Centennial, Colorado 80113-3516
www.stanleyconsultants.com

| ISSUE | DATE | DESCRIPTION | ENGINEER | APPROVED BY | PROJECT |
|-------|----------|--|----------|-------------|---------|
| 0 | 11/13/23 | SCI - CONCEPTUAL 115KV CAP BANK ADDITION | | | |

McKENZIE ELECTRIC COOPERATIVE INC.
WATFORD CITY, ND

CONCEPTUAL
115KV CAP BANK ADDITION

| | |
|----------|-----------|
| FILENAME | GA-01.dwg |
| SCALE | NONE |

GA-01

McKenzie Electric - 115kV Cap Bank Installation Estimate

| <u>Equipment/ Material</u> | <u>Estimated Cost</u> | <u>Lead Time</u> |
|---|-----------------------|-----------------------------------|
| 115kV Cap Bank (15MVAR) | \$205,000.00 | 42-46 weeks |
| Cap Switcher | \$110,000.00 | 54-56 weeks |
| Cap Switcher CTs (3) | \$50,000.00 | 32-34 weeks |
| 115kV Disconnect Switch (1200A) | \$16,000.00 | 20-24 weeks |
| 115kV GND Switch | \$14,000.00 | 26-28 weeks |
| 115kV Surge Arresters (3) | \$5,400.00 | 20-22 Weeks |
| Cap Bank Pannel | \$50,000.00 | 14-16 Weeks |
| Equip. Sub Total | \$450,400.00 | |
| Steel Structures (SA stand, switch stands) | \$12,000.00 | 10-12 weeks |
| Material Total | \$462,400.00 | |
| Construction Estimate | \$277,440.00 | (60% of equip./mat. estimate) |
| Engineering Estimate | \$73,984.00 | (10% of total project costs) |
| Total Estimated Cost | \$813,824.00 | |
| Contingency | \$203,456.00 | 25.00% |
| Total Estimate | \$1,017,280.00 | |

Garden Creek 2/3 to Banks OPGW Replacement

| | Unit(s) | | Unit Cost | Cost | Comments |
|-----------------------------|---------|------|---------------|----------------------|--|
| Engineering | 1 | ea | \$ 100,000.00 | \$ 100,000.00 | Lidar is on hand. Engineering will need to layout all structures from Existing P&Ps. Engineering will need to hire a surveyor to acquire pole ground circumference. Engineer to provide structure usage analysis and complete design for OPGW. |
| Relay Engineering | 1 | ea | \$ 18,000.00 | \$ 18,000.00 | Engineer will need to design new relay settings at Banks and Garden Creek 2/3 |
| Materials | | | | | |
| Poles | 10 | ea | \$ 5,500.00 | \$ 55,000.00 | MEC is assuming that 10 poles will fail during the structure usage analysis. MEC is estimating to replace these poles |
| OPGW | 60000 | ft | \$ 1.55 | \$ 93,000.00 | Cost of fiber in 2023 was \$1.37/ft. The ground line distance from Banks to Garden Creek 2/3 is 52,000'. 15% has been added due to sag and deadends. |
| OPGW Attachments | | | | \$ 37,200.00 | Cost Estimated with purchase prices of 2023 projects. |
| TP-115 Materials | 10 | ea | \$ 4,000.00 | \$ 40,000.00 | MEC is assuming that 10 poles will fail during the structure usage analysis. MEC is estimating to replace these poles |
| Splice Box | 4 | ea | \$ 3,500.00 | \$ 14,000.00 | Enclosure is \$1,100, bullet shield is \$2,000, all other parts included as well. |
| Construction | | | | | |
| String OPGW | 10 | mile | \$ 19,000.00 | \$ 190,000.00 | |
| Install TP-115 | 10 | ea | \$ 7,000.00 | \$ 70,000.00 | MEC is assuming that 10 poles will fail during the structure usage analysis. MEC is estimating to replace these poles |
| Fiber Splice | 4 | ea | \$ 5,000.00 | \$ 20,000.00 | |
| Construction Oversight | 1 | ea | \$ 10,000.00 | \$ 10,000.00 | MEC time included for inspections and coordination |
| Relay Crew Mobilization | 1 | ea | \$ 4,000.00 | \$ 4,000.00 | Quote from 2022 adjusted for inflation |
| Relay Settings Commissioned | 2 | ea | \$ 3,500.00 | \$ 7,000.00 | Quote from 2022 adjusted for inflation |
| Retirement | | | | | |
| Static Retire | | | | \$ 65,000.00 | Estimated with a contractor in 2022. Adjusted for inflation |
| Contingency | | | | 20% | |
| Total | | | | \$ 867,840.00 | |

Kummer Ridge to Station 8 OPGW Interconnect

| | Unit(s) | | Unit Cost | Cost | Comments |
|------------------|---------|------|--------------|---------------------|---|
| Engineering | 1 | ea | \$ 20,000.00 | \$ 20,000.00 | 1 miles of line design and material call outs. |
| Materials | | | | | |
| OPGW | 6100 | ft | \$ 1.55 | \$ 9,455.00 | Cost of fiber in 2023 was \$1.37/ft. 15% has been added due to sag and deadends. |
| OPGW Attachments | | | | \$ 3,782.00 | Cost Estimated with purchase prices of 2023 projects. |
| Splice Box | 2 | ea | \$ 3,500.00 | \$ 7,000.00 | Enclosure is \$1,100, bullet shield is \$2,000, all other parts included as well. |
| Construction | | | | | |
| String OPGW | 1.1 | mile | \$ 19,000.00 | \$ 20,900.00 | |
| Fiber Splice | 2 | ea | \$ 5,000.00 | \$ 10,000.00 | |
| Retirement | | | | | |
| Static Retire | | | | \$ 5,000.00 | |
| Contingency | | | | 20% | |
| Total | | | | \$ 91,364.40 | |

Figure 4 to Moccasin Creek OPGW Replacement

| | Unit(s) | | Unit Cost | Cost | Comments |
|-----------------------------|---------|------|---------------|------------------------|--|
| Engineering | 1 | ea | \$ 110,000.00 | \$ 110,000.00 | Lidar is on hand. Engineering will need to layout all structures from Existing PLS Cadd. Engineering will need to hire a surveyor to acquire pole ground circumference. Engineer to provide structure usage analysis and complete design for OPGW. |
| Relay Engineering | 1 | ea | \$ 18,000.00 | \$ 18,000.00 | Engineer will need to design new relay settings at Figure 4 and Moccasin Creek |
| Materials | | | | | |
| Poles | 15 | ea | \$ 6,500.00 | \$ 97,500.00 | MEC is assuming that 15 poles will fail during the structure usage analysis. MEC is estimating to replace these poles |
| OPGW | 71650 | ft | \$ 1.55 | \$ 111,057.50 | Cost of fiber in 2023 was \$1.37/ft. The ground line distance from Figure 4 to Moccasin Creek is 65,148'. 10% has been added due to sag and deadends. |
| OPGW Attachments | | | | \$ 44,423.00 | Cost Estimated with purchase prices of 2023 projects. |
| TP-115 Materials | 15 | ea | \$ 4,000.00 | \$ 60,000.00 | MEC is assuming that 15 poles will fail during the structure usage analysis. MEC is estimating to replace these poles |
| Splice Box | 5 | ea | \$ 3,500.00 | \$ 17,500.00 | Enclosure is \$1,100, bullet shield is \$2,000, all other parts included as well. |
| Construction | | | | | |
| String OPGW | 12.5 | mile | \$ 19,000.00 | \$ 237,500.00 | |
| Install TP-115 | 15 | ea | \$ 7,000.00 | \$ 105,000.00 | MEC is assuming that 15 poles will fail during the structure usage analysis. MEC is estimating to replace these poles |
| Fiber Splice | 5 | ea | \$ 5,000.00 | \$ 25,000.00 | |
| Construction Oversight | 1 | ea | \$ 10,000.00 | \$ 10,000.00 | MEC time included for inspections and coordination |
| Relay Crew Mobilization | 1 | ea | \$ 4,000.00 | \$ 4,000.00 | Quote from 2022 adjusted for inflation |
| Relay Settings Commissioned | 2 | ea | \$ 3,500.00 | \$ 7,000.00 | Quote from 2022 adjusted for inflation |
| Retirement | | | | | |
| Static Retire | | | | \$ 70,000.00 | Estimated with a contractor in 2022. Adjusted for inflation |
| Contingency | | | | 20% | |
| Total | | | | \$ 1,100,376.60 | |

Roughrider Sub Estimate
 2023
 Opinion of Probable Cost



November 16, 2023
 Rev0

| DESCRIPTION | Option 1 | Option 2 | Option 3 |
|--|----------------------|-------------|-------------|
| Equipment | \$ 158,600.00 | \$ - | \$ - |
| Electrical Bus, Power Cable, Fiber/OPGW | \$ 27,375.00 | \$ - | \$ - |
| Steel Structures | \$ 9,900.00 | \$ - | \$ - |
| Foundations | \$ 50,000.00 | \$ - | \$ - |
| Conduit, Cable & Grounding | \$ 78,250.00 | \$ - | \$ - |
| Site Work & Fence | \$ 13,200.00 | \$ - | \$ - |
| Control Building & Relays | \$ 69,600.00 | \$ - | \$ - |
| Field Acceptance and Maintenance Testing | \$ 1,000.00 | \$ - | \$ - |
| Demolition of Existing Facilities | \$ 6,000.00 | \$ - | \$ - |
| Engineering | \$ 125,000.00 | \$ - | \$ - |
| TOTAL OPINION OF COST | \$ 538,925.00 | \$ - | \$ - |
| CONTIGENCY (20%) | \$ 646,710.00 | \$ - | \$ - |

Notes:

1. Cost opinion are based on standard MEC Cost Opinion Spreadsheet
2. Equipment and structure prices are based on quotes received recently for similar projects.
3. Standard markup has been included on equipment pricing and subcontracted services.
4. Items listed above include material and labor.

Mountain Fiber Install and SCADA Engineering

| | Unit(s) | | Unit Cost | Cost | Comments |
|---------------------------|---------|----|--------------|---------------------|---|
| Engineering (2024) | 1 | ea | \$ 70,000.00 | \$ 70,000.00 | Engineering includes the design and routing of fiberoptic cable and SCADA Design. Relay panels design included. Cost of Blue Buttes SCADA engineering was \$60k and that did not include panel design, bidding, and wiring updates. |
| Materials | | | | | |
| Underground Fiber | 400 | ft | \$ 5.00 | \$ 2,000.00 | Estimated cost of underground fiber. This footage is enough to get from the splice box into the control building. |
| Conduit | 400 | ft | \$ 2.00 | \$ 800.00 | This is for the material that the fiber will be installed in. Estimated as 2" innerduct. |
| Fiber Materials | | | | \$ 200.00 | |
| Splice box in substation | 0 | ea | | \$ - | This will be included in a 2025 request for relay panels to accommodate the SCADA material acquisition. |
| Splice Box | 0 | ea | \$ 3,500.00 | \$ - | This is included in the cost of the Oakdale to Mountain Transmission line |
| SCADA misc materials | 0 | ea | \$ 3,000.00 | \$ - | This will be a 2025 Budget Request |
| Relay Panels | 0 | ea | \$ 40,000.00 | \$ - | This will be a 2025 Budget Request. Jacob assumes that 2 relay/communication panels will be needed in 2025. (as of July 2023) |
| Construction | | | | | |
| Fiber install | 400 | ft | \$ 6.00 | \$ 2,400.00 | |
| Fiber Splice | 0 | ea | \$ 5,000.00 | \$ - | Fiber splice included in cost of Oakdale to Mountain Transmission line. Fiber in substation building will not be spliced until the communication panels are installed in 2025. |
| Construction Mobilization | 1 | ea | \$ 2,500.00 | \$ 2,500.00 | Estimated cost to mobilize crews and equipment to site |
| SCADA construction | 0 | ea | \$ 10,000.00 | \$ - | This will be a 2025 Budget Request. |
| SCADA T&C | 0 | ea | \$ 20,000.00 | \$ - | This will be a 2025 Budget Request. |
| Contingency | | | | 20% | |
| Total | | | | \$ 93,480.00 | |

Mountain SCADA Construction and Commissioning

| | Unit(s) | | Unit Cost | Cost | Comments |
|--------------------------|---------|----|--------------|----------------------|---|
| Engineering (2025) | 1 | ea | \$ 10,000.00 | \$ 10,000.00 | Most Engineering efforts are to be completed in 2024. This cost is for assisting in material procurement and answering questions from the contractor. |
| Materials | | | | | |
| Underground Fiber | 0 | ft | \$ 5.00 | \$ - | Estimated cost of underground fiber. This footage is enough to get from the splice box into the control building. |
| Conduit | 0 | ft | \$ 2.00 | \$ - | This is for the material that the fiber will be installed in. Estimated as 2" innerduct. |
| Fiber Materials | 0 | ea | \$ 200.00 | \$ - | |
| Splice Box | 0 | ea | \$ 3,500.00 | \$ - | This is included in the cost of the Oakdale to Mountain Transmission line |
| SCADA misc materials | 1 | ea | \$ 3,000.00 | \$ 3,000.00 | This is for any misc cables and items that need to be installed and procured. |
| Relay Panels | 2 | ea | \$ 40,000.00 | \$ 80,000.00 | This is assuming 2 panels will need to be installed at the Mounatins substation. TBD. |
| Construction | | | | | |
| Fiber install | 0 | ft | \$ 6.00 | \$ - | |
| Fiber Splice | 0 | ea | \$ 5,000.00 | \$ - | |
| Construcion Mobilization | 0 | ea | \$ 2,500.00 | \$ - | |
| SCADA construction | 1 | ea | \$ 10,000.00 | \$ 10,000.00 | This will be a 2025 Budget Request. |
| SCADA T&C | 1 | ea | \$ 20,000.00 | \$ 20,000.00 | This will be a 2025 Budget Request. |
| Contingency | | | | 20% | |
| Total | | | | \$ 147,600.00 | |

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Concept Paper Overview: Providing Opportunity with Energy Redundancy (POWER)
 for:

U.S. Department of Energy (DOE), Grid Deployment Office (GDO)
 FOA 3195: Grid Resilience and Innovation Partnerships Program (GRIP)

BLUF. Will the North Dakota Industrial Commission support the POWER project by allowing the Transmission Authority (NDTA) to serve as the primary (prime) applicant to DOE?

Background.

The North Dakota Association of Rural Electric Cooperatives (NDAREC) hosted a Project Development Workshop in May 2023 to solicit input from NDAREC members about the types of projects they'd like to submit for federal funding from Bipartisan Infrastructure Law (BIL) programs. The Providing Opportunity with Energy Redundancy (POWER) project emerged from that convening. Now, NDAREC has contracted with Converge Strategies to put together a full application for GRIP funding for the project. DOE requires a state government office to serve as the primary (prime) applicant - the NDTA.

Project Description.

The POWER project takes a two-pronged approach for enhancing transmission resilience throughout the state of North Dakota (ND). The North Dakota Transmission Authority (NDTA or Authority) will lead the project, in partnership with NDAREC and nine of its member cooperatives.

- 1) **Future Preparedness: Statewide Transmission Study.** NDTA will lead a comprehensive, statewide transmission study for the entire state of ND to identify key vulnerabilities in the transmission system and prioritize opportunities for enhancing ND's transmission resilience to extreme weather events over the next decade.
- 2) **Addressing Gaps Today: Transmission Buildout.** At the same time, cooperatives across the state have already identified known resilience gaps and opportunities for transmission buildout that will enhance rural resilience and strengthen economic potential for ND's historically disadvantaged communities. Cooperative utilities will construct or rebuild transmission to fill these known gaps with GRIP funding.

The POWER project has a large geographic footprint. ND cooperatives in this application serve approximately 166,000 North Dakotans and will build or rebuild at least 28 individual transmission lines and substations across ND. POWER transmission projects will provide resilience benefits not only to ND, but also to the two regional transmission organizations (RTOs), Southern Power Pool (SPP) and Midcontinent Independent System Operator (MISO).

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Strategic Goals.

POWER has four strategic goals that align to the Grid Deployment Office's (GDO's) priorities:

- Increase Reliability and Outage Protection
- Serve Underserved ND Communities
- Enable Access to Future Clean Energy Generation
- Carve a Path for Economic Prosperity

Impact - Statewide Transmission Study.

While the ND Department of Emergency Services (NDDDES) does currently have the Enhanced Mitigation Mission Area Operations Plan, providing broad direction to prioritize infrastructure improvements which enhance resilience across ND, there is no comprehensive ND Transmission Plan. It is critical that ND take a comprehensive approach to transmission infrastructure because of its high potential for future clean energy generation (wind), its status as a large net-exporter of energy, and because it contains segments of both SPP and MISO. With GRIP funding, the NDTA will lead an analysis of critical infrastructure interdependencies across the state, identify critical infrastructure vulnerabilities, and create a plan that identifies which transmission project can best enhance transmission-level resilience across the state. DOE funding will be critical for realizing this ambitious plan; the NDTA office is currently staffed by one person and will need more contract support for a statewide transmission study.

Impact - Transmission Buildout.

DOE funding is also critical for rapid transmission buildout - projects that can be started today. POWER project transmission lines are in sparsely populated areas where cooperative members cannot provide the upfront capital to fund the projects. For context, four cooperatives involved in the application are on the list of the top 10 utilities in the country with the lowest meters per mile. This puts a heavy burden on these members to fund capital intensive projects, especially for the service territories in Justice40 Communities. GRIP funding will go directly to procurement of transmission infrastructure (structures, substations, wires, etc.).

Ready, Viable Projects.

Each of the participating cooperatives has foundational support from the stakeholders directly involved with construction vendors and contractors necessary for transmission buildout. In addition, cooperatives are already engaged with many of the downstream customers ("members" in cooperative-speak) that will most benefit from these projects.

In the coming months, applicants will seek formal written letters of commitment and support to ensure successful outcomes in the planning and implementation processes. Cohesive, coordinated support will expedite any potential community barriers and will prove to DOE that cooperatives are actively engaged with the communities they seek to benefit.

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Once funded, POWER has strong project viability. Construction, operation, and maintenance of the transmission project are fully within cooperatives' wheelhouses. Further, there is no better government entity than the NDTA to perform a statewide analysis of transmission infrastructure.

Primary Challenges.

- **Permitting.** The largest challenge for POWER is the permitting and approval process. Many of the transmission lines are in existing right of ways. For execution, these lines will be built first. At the same time, other transmission line projects may undergo more intensive state and federal permitting review. This will expedite the project timeline to ensure construction begins almost immediately after project funding.
- **Supply Chain.** Supply chain backups may cause shipping delays and price increases for necessary materials for transmission buildout. This risk is not unique to ND cooperatives; utilities across the country currently battle long construction timelines due to supply chain disruptions.

Timeline.

Both parts of the POWER project, the transmission study and the transmission buildout, must be completed within 96 months from the project's start date.

Project Management Team.

- Principal Investigator (PI) (NDTA). The PI will gather, review, and submit all GRIP reporting requirements to DOE as required. The PI will distribute GRIP funds to all subrecipients.
- Project Manager (PM) (NDAREC). The PM will take primary responsibility for the generation and submission of all reporting requirements for the prime. The PM is responsible for monitoring project progress against milestones.
- Assistant Project Manager (NDAREC). The Assistant Project Manager will support the Project Manager by tracking subrecipient project progress, communicating with vendors, and gathering required data for DOE reporting.

NDAREC will provide the Project Management Team for the POWER project. NDAREC is the trade association for the state's 16 distribution cooperatives and five Generation and Transmission (G&T) cooperatives. Its mission is to "provide member cooperatives a complete package of quality services in communications, government relations, education, safety training, professional and economic development." NDAREC is well positioned to support the prime and all subrecipients with a detailed project management plan. NDAREC will actively pull reporting requirements from all funding recipients and produce reporting materials for DOE.

What's Next.

GRIP concept papers are due to DOE 12 JAN 2024. Converge Strategies, in partnership with NDTA and NDAREC will write and submit the concept paper. If encouraged to move on to full

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application, full applications are due 17 APR 2024. If selected to move to negotiations, NDTA will likely be notified sometime in the summer of 2024. The anticipated start of the project is winter 2024 or early 2025.

Concept Paper Details.

DOE places heavy emphasis on funding projects with substantive community benefits plans (CBPs). With permission to proceed, Converge Strategies, NDTA, and NDAREC will create a CBP that addresses all four of the priorities required by DOE:

- Community and Labor Engagement
- Investing in the American Workforce
- Diversity, Equity, Inclusion, and Accessibility
- Justice40 Initiative

Request.

To apply for GRIP Topic Area 3 (“Grid Innovation Program” 40103(b)), the POWER project must identify a government or tribal entity to serve as the prime applicant. Because of the nature of the POWER project, an ND-statewide transmission project, NDTA is the natural prime.

Applicants are requesting permission for NDTA to prime that application, author a concept paper and, if later encouraged, a full application to submit the POWER project for GRIP funding from DOE.

Providing Opportunity with Energy Redundancy (POWER) Project

PROJECT SUMMARY

POWER is a transmission buildout project that will **enhance rural resilience** and **strengthen economic potential** for North Dakota's historically disadvantaged citizens.

The resilience benefit will provide transmission level redundancy, a critical component in making rural communities less susceptible to extreme weather outages. The proposed transmission lines have been identified by co-op planning analysis for their access to clean energy generation, support for historically underserved communities, and ability to leverage critical substations to maximize the interconnection of North Dakota's electric grid.

WHAT THIS MEANS FOR NORTH DAKOTA

Assuredness. These lines give North Dakotans confidence their power will stay on during adverse conditions.

Economic Growth. These lines aim to attract and retain businesses, promote community growth, commerce, and vitality.

Better Prices. These new lines will increase energy accessibility to ensure co-op customers are receiving the best possible rate.

Closer Communities. Several proposed lines will connect with Tribal territories. Increased energy ties will promote enhanced engagement and collaboration.

NDARECs

North Dakota Association of Rural Electric Cooperatives

ROLES: ND TX AUTHORITY NDAREC CONVERGE STRATEGIES

ND Tx Authority. The ND Tx Authority will submit this application under the Department of Energy's Grid Resilience and Innovative Partnerships (GRIP) program as a prime applicant. NDAREC members will be subapplicants on the project.

NDAREC. NDAREC will retain its role as the project manager and lead statewide coordination.

Converge Strategies (CSL). NDAREC is retaining CSL to lead writing the GRIP Topic Area Three application. CSL will collect data from participating co-ops and work closely with NDAREC to craft a compelling and comprehensive funding application. Your support and collaboration with CSL is key to submitting a successful application.

PREFERRED PROJECTS

- Enhance system flexibility or capacity while enhancing reliability.
- Promote clean energy deployment and future electrification growth.



WHAT WE NEED FROM YOU

Confirm your co-op's interest in participating as a sub-applicant and be prepared for some quick turnarounds. This is outlined below and on the next page.

HOW TO GET INVOLVED

Email [Lori Capouch](#) at NDAREC and [Matt Aronoff](#) at Converge Strategies to confirm participation in the POWER project application.

PROCESS

1. Upon selection into the application, NDAREC and Converge Strategies will distribute a letter of support template confirming your board's approval of participation in this application.
2. NDAREC will hold an application kickoff 20 December.
3. Post concept paper announcement, NDAREC will share a brief questionnaire, and other application information.

Providing Opportunity with Energy Redundancy (POWER) Project

WHY WAS POWER CHOSEN?

Engaged Community. NDAREC and CSL hosted a Project Development Workshop in May 2023 to solicit input from NDAREC members about the types of projects they'd like to compete for federal funding from Bipartisan Infrastructure Law (BIL) programs.

Backbone of the Grid. A strong transmission system is the foundation to our modern American life. Its distribution interconnections create a stronger North Dakota for blue sky and black sky conditions.

The Next Frontier. POWER transmission lines will open opportunities for development that were previously impossible for lack of electric infrastructure. POWER will demonstrate the correlation between quality electricity access and economic development.

SET FOR SUCCESS

Funding Alignment. The goals of POWER align with the objectives of the [GRIP Topic Area 3 \(Grip Innovation Program\)](#) program administered by the Grid Deployment Office (GDO) at the U.S. Department of Energy (DOE). The ND Tx Authority's GRIP Topic Three application will highlight that the construction of transformational transmission projects, like POWER, would not otherwise be possible without federal funding.

Community Support. The North Dakota co-op family understands the importance of this project. Primary beneficiaries of POWER include disadvantaged communities, local businesses, rural communities, clean energy developers, and co-op member-owners, among others. Co-ops participating in the POWER application will be instrumental partners in garnering support from these beneficiaries.

Winning Case. POWER creates winning outcomes for all parties by increasing grid resilience, supporting underserved communities, and creating the conditions for future economic development across the state of North Dakota.

CO-OP ENGAGEMENT EXPECTATIONS

(There will be an initial sprint!)

Concept Paper (Due 10 JAN).

1. CSL will be reaching out for several data requests. These might include: confirmation of proposed line(s), budget request, service territory outage information, wind energy potential, and others.
2. CSL will be asking co-ops to submit pivotal community stakeholders to sign a letter of commitment or endorsement.
3. CSL will share the draft concept paper to co-ops on 5 JAN for a review. Co-ops will have five days for review before ND Tx Authority submits on 10 JAN.

First Announcement (Expecting in FEB).

DOE will notify the ND Tx Authority in February about a letter of Encouragement or Discouragement for moving forward to the full application.

Full Application (Due 17 APR):

1. CSL will work with NDAREC and its members for further data requests and collecting letters of support. This will be informed from DOE feedback to the concept paper.
2. CSL will draft the full application based on the above data requests.
3. NDAREC will coordinate required forms to complete an application (ex - Build America, Buy America).
4. CSL will provide NDAREC and its members two weeks for formal application review prior to submission.

OUTSTANDING QUESTIONS?

Email [Lori Capouch](#) at NDAREC and [Matt Aronoff](#) at Converge Strategies for clarification.

NDARECs

North Dakota Association of
Rural Electric Cooperatives

Your Touchstone Energy® Cooperative 

POWER Project for North Dakota GRIP Topic Area 3: Grid Innovation Program

18 December, 2023

Agenda

01

**GRIP Round Two
Overview**

04

**Cooperative
Demographics**

02

**GRIP Topic Area 3
Overview and Guidance**

05

Timeline

03

POWER Project Impact

06

The Ask

GRIP Round Two: Overview

- Released Monday, 13 NOV
- Three Topic Areas (TAs)
 - TA1: Grid Resilience Grants (40101(c))
 - TA2: Smart Grid Grants (40107)
 - TA3: Grid Innovation Program (40103(b))

GRIP Strategic Goals (highlights)

- Increase resilience in the face of extreme disruptions, enable data-rich and flexible grid performance, and spur innovation.
- Dramatically alter the relationship between energy providers and their communities.
- Catalyze and leverage private and non-federal public capital.

GRIP Topic Area 3: Grid Innovation Program Breakdown

GOAL: Improve grid reliability and resilience on the local, regional, and interregional scale.

\$1.8B

TA3 Grid Innovation
Program GRIP Round 2

**Cooperative
Agreements**

Financial Vehicle
(shared
responsibility)

4-40

Projects Awarded in
TA3

\$250M

Maximum Award Size for
TA1 (with exception)

50%

Cost Share

60-96

Months in Period of
Performance (PoP)

GRIP Topic Area 3: Grid Innovation Program Highlights

■ Transmission

- Innovative approaches to transmission, including technology to reduce/remove technical, economic and/or regulatory barriers.
- Major new transmission lines.
- Expansion and renewable energy interconnection.
- Interregional or cross-ISO/RTO projects addressing grid reliability, flexibility and/or resilience.
- Public-Private Partnerships (PPPs).

■ Distribution

- Electrification of industrial, commercial and building, and district energy systems.
- Black-start capable systems.
- Grid services in real-time.

■ Behind the meter asset operations, aggregation and coordination.

■ Energy storage for transmission.

- Innovative storage with mix of renewable energy resources and away from lithium-ion battery.
- Deployment of storage technologies in extreme weather communities.

GRIP Topic Area 3: Grid Innovation Program

Elements of a Successful Application

- Coordinated operations and/or planning across the transmission and distribution networks.
- Novel and replicable approaches to reduce energy burden and increase resilience for disadvantaged communities (DACs).
- Increase access to cheaper generation resources and reduce impact of infrastructure costs.
- Technological and innovative approaches.
- Diverse and multi-functional project teams.
- Scalability and wide-scale adoption strategy.

Proposed Project Pool



27

MILES OF TRANSMISSION
LINE REBUILD



250

MILES OF NEW
TRANSMISSION LINE



4

Direct substation
upgrades

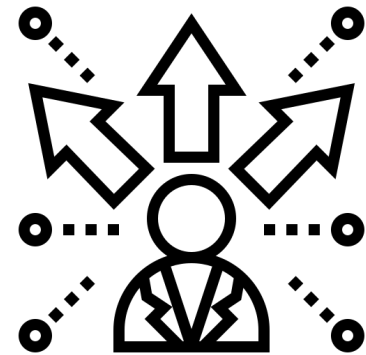
Expected Benefits for North Dakota

Assuredness



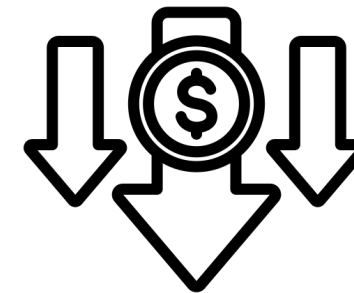
These lines give North Dakotans confidence their power will stay on during adverse conditions.

Economic Growth



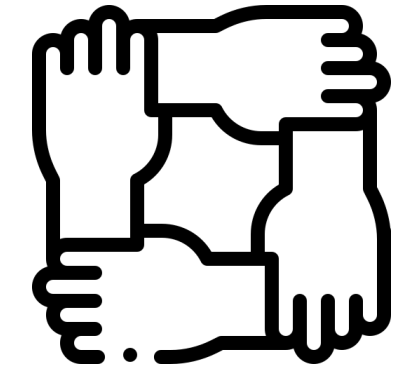
These lines aim to attract and retain businesses, promote community growth, commerce, and vitality.

Better Prices



These new lines will increase energy accessibility to ensure co-op customers are receiving the best possible rate.

Closer Communities



Several proposed lines will connect with Tribal territories. Increased energy ties will increase engagement and cooperation.

Generation & Transmission Cooperative Involvement



These G&T cooperatives represented the following in 2021...

17

Members
Co-ops

6.3M

MWh Sold

3,436

Miles of
Transmission Line

214K

Accounts

448

FT Employees

Distribution Cooperative Involvement



These cooperatives represented the following in 2021...

33,425

Members

1.4M+

MWh Sold

25,668

Miles of
Distribution
Line

\$34.1B+

Dollars to the
Community

293

FT
Employees

\$22B+

Capital
Credits
Returned to
the
Community

Process and Timeline

Concept Paper due 12 JAN

We are here. Converge (CSL) is drafting the [Concept Paper](#) (CP) now.

- **19 DEC:** Concept Kickoff with participating members.
- **DATE:** CP to NDAREC for review
- **5 JAN:** CP to POWER participants for review
- **9 JAN:** CSL creates final draft
- **10 JAN:** Submission

Full Application due 17 APR

See [FOA](#) for full instructions.

- Topic Area 3
- Heavier lift FEB - APR for all participants
 - ~10 required forms
 - Data requests
 - Align reported metrics and work plans

Encouragement or Discouragement

Negotiations ~summer '24

DOE's Grid Deployment Office (GDO) will select applicants for negotiation

- ~120-day process
- Modify metrics
- Set milestones
- Confirm project management plan
- Cement community benefits plan milestones

Selection for Negotiations

Go / No-Go



The Ask

**Will the the North Dakota Industrial
Commission support the POWER project by
allowing the Transmission Authority to serve
as the primary (prime) applicant to DOE?**

Roles



ND Industrial Commission

Prime

Serves as official eligible submission authority.



NDAREC

Project Manager

Provides requested data and coordinates request forms.



Converge Strategies

Coordination and Lead Writer

Coordinates participants and drafts concept and full application.

December 12, 2023

PUBLIC FINANCE AUTHORITY ADVISORY COMMITTEE

RECOMMENDATION TO THE INDUSTRIAL COMMISSION

The Advisory Committee, at its December 12, 2023 meeting, reviewed, discussed, and recommends approval of a \$9,714,000 Drinking Water State Revolving Fund Program loan to Central Plains Water District.

North Dakota Public Finance Authority
Advisory Committee

Keith Lund, Chairman
Linda Svihovec
John Phillips

Industrial Commission
of North Dakota

Doug Burgum
GOVERNOR

Drew H. Wrigley
ATTORNEY GENERAL

Doug Goehring
AGRICULTURE COMMISSIONER



North Dakota Public Finance Authority

Memorandum

To: Public Finance Authority Advisory Committee
Miles Silbert, Public Financial Management
Kylee Merkel, Bank of North Dakota

From: DeAnn Ament, Executive Director

Date: November 7, 2023

Re: Central Plains Water District, Drinking Water State Revolving Fund

Purpose of the Project: Filtration system upgrades at the Maddock water treatment plant and a new transmission line from the plant to Reservoir 2.

Project Amount:

| | |
|-------------------------------|--------------|
| DWSRF Request | \$ 9,714,000 |
| DWSRF Loan Forgiveness | (8,379,000) |
| DWSRF Net Loan | \$ 1,335,000 |

| | |
|-----------------------|---------------|
| DWSRF Request | \$ 9,714,000 |
| DWR Cost Share | 3,633,029 |
| Project Total | \$ 13,346,699 |

Users to Benefit from the Project: 1,020; \$13,085 per user

Users Served by the System: 300 connections plus 3 cities with a total population of 688

The requested term for the Drinking Water State Revolving Fund (DWSRF) loan is 20 years. Central Plains Water District (District) will issue revenue bonds payable with water user fees. The average annual payment for the revenue bonds will be \$78,159. The reserve requirement will be \$86,275 and the 110% coverage requirement will be \$85,975.

The District currently provides water services to 300 rural connections and 3 cities in Wells County and portions of Benson, Eddy and Foster Counties. Old system users pay a monthly base rate of \$30 and \$6.50/1,000 gallons and new system users monthly base rate is \$56 and \$7.25/1,000 gallons. The District anticipates increasing monthly base rates \$10/user which would annually generate \$36,000. The number of connections is anticipated to grow by 50 over the next two years. Annual operations and maintenance expenses are anticipated to increase by \$76,000.

Net Operating Coverage:

| | 2019 | 2020 | 2021 | 2022 |
|---------------------------------|-------------|-------------|-------------|-------------|
| Interest Revenue | \$7,863 | \$7,371 | \$2,318 | \$2,395 |
| Operating Revenue | 1,145,109 | 1,189,527 | 1,294,886 | 1,280,103 |
| Operating Expenses | 979,484 | 986,282 | 1,087,152 | 1,132,517 |
| Net Operating Revenue | 173,488 | 210,617 | 210,051 | 149,981 |
| Depreciation | 333,886 | 335,782 | 335,306 | 336,826 |
| Adjusted Net Operating Revenue | \$507,374 | \$546,399 | \$545,358 | \$486,807 |
| Existing DWSRF Payments | \$320,483 | \$380,057 | \$217,350 | \$218,600 |
| Net Operating Coverage | 158% | 144% | 251% | 223% |
| Proforma Additional Revenue | \$36,000 | \$36,000 | \$36,000 | \$36,000 |
| Proforma DWSRF Payments | \$78,159 | \$78,159 | \$78,159 | \$78,159 |
| Proforma Net Operating Coverage | 136% | 127% | 197% | 176% |

With the anticipated rate increase net operating revenue will be sufficient to meet the 110% net operating coverage requirement.

Listed below is a summary of the total outstanding debt of the District:

| | Original Debt | Outstanding Debt |
|---------------------------------|--------------------------|-----------------------------|
| Total Revenue Bond Debt* | \$4,925,000 | \$4,170,000 |

* The District has one \$4,170,000 DWSRF loan outstanding. All payments have been made as agreed. The reserve fund balance of \$321,185 exceeds the required balance of \$223,300.

The current estimated population of the District is 3,504 which is an increase of 204 since the 2010 census. Major employers in the service area are SMP Health - St. Aloisius with 243 employees, Harvey School District has 73 employees and Hav-It Services (social assistance) employ 60.

District-Wide School Enrollment for K-12:

| 2020-2021 | 2021-2022 | 2022-2023 |
|------------------|------------------|------------------|
| 1,006 | 1,035 | 1,029 |

Memorandum

To: Industrial Commission

From: Kylee Merkel, Business Banker
Bank of North Dakota

Date: November 8, 2023

RE: Central Plains Water District
Drinking Water State Revolving Fund Program

ND Public Finance Authority has delivered to BND their memo which recommends approval of a \$9,714,000 loan to Central Plains Water District under the Drinking Water State Revolving Fund (DWSRF). This project is eligible for DWSRF loan forgiveness of \$8,379,000, making the net loan amount \$1,335,000. The total cost of the project is \$13,469,699, with \$3,633,029 coming from a Department of Water Resources cost-share grant.

The project includes filtration system upgrades at the Maddock water treatment plant and a new transmission line from the plant to Reservoir 2. The requested loan term is 20 years. The District will issue revenue bonds payable from user fees. The annual payment will average \$78,159.

Debt Service Coverage:

| | 2020 | 2021 | 2022 | Projected |
|---------------------------|-----------|------------|------------|------------|
| Operating Revenue | 1,189,527 | 1,294,886 | 1,280,103 | 1,280,103 |
| Rate Rate Increase | | | | 36,000 |
| Interest Revenue | 7,371 | 2,318 | 2,395 | 2,395 |
| Operating Expenses | -986,282 | -1,087,152 | -1,132,517 | -1,132,517 |
| Net Operating Revenue | 210,617 | 210,051 | 149,981 | 185,981 |
| Add: Depreciation | 335,782 | 335,306 | 336,826 | 336,826 |
| Adjusted Operating Income | 546,399 | 545,358 | 486,807 | 522,807 |
| Current Debt Service | 380,057 | 217,350 | 218,600 | 218,600 |
| Proposed Debt Service | | | | 78,159 |
| Current Debt Service | 380,057 | 217,350 | 218,600 | 296,759 |
| Debt Service Coverage | 143.77% | 250.91% | 222.69% | 176.17% |

Old system users pay a monthly base rate of \$30 and a usage fee of \$6.50 per 1,000 gallons. New system users pay a monthly base rate of \$56 and a usage fee of \$7.25 per 1,000 gallons. The District anticipates increasing monthly base rates by \$10, which will generate an additional \$36,000 annually. The existing user fees, combined with the projected increase, will generate sufficient net operating revenues to service both the new and existing debt.

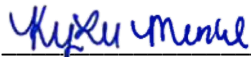
Outstanding Debt:

| | <u>Original Amount</u> | <u>Amount Outstanding</u> |
|---------------------|-----------------------------------|--------------------------------------|
| Total Revenue Bonds | \$4,925,000 | \$4,170,000 |

Average annual debt service requirements are estimated at \$296,759, which is an average of \$91.31 per resident of the District.

The District currently serves 300 residential connections and 3 City connections. The District provides water services to Wells County and portions of Benson, Eddy and Foster Counties. The District's estimated population is 3,250.

Based upon the PFA recommendation and the benefits obtained with this project, BND concurs with their evaluation and support of the request.



Kylee Merkel
Business Banker





Memorandum

TO: DeAnn Ament, Executive Director
North Dakota Public Finance Authority

FROM: PFM Financial Advisors LLC

DATE: December 8, 2023

RE: Marketplace Analysis - Drinking Water State Revolving Fund Program
Central Plains Water District

The Central Plains Water District (“District”) has presented a request to the Authority and the North Dakota Department of Environmental Quality (“Department”) for a \$9,714,000 loan of which \$8,379,000 will be loan forgiveness, for a net total of \$1,335,000 under the Drinking Water State Revolving Fund Program (“DWSRF Program”). The DWSRF Program is used to make subsidized interest rate loans to political subdivisions for the purpose of constructing various water treatment, distribution, and storage facilities as approved by the Department in accordance with federal and state regulations and an updated Intended Use Plan prepared by the Department.

The District intends to use the proceeds to upgrade the Maddock water treatment plant filtration system and build a new transmission line from the plant to Reservoir 2.

The municipal securities to be acquired by the Authority will be revenue bonds payable from water user fees. The District’s average annual payment under the proposed net loan amount will be approximately \$78,159 indicating a 110% net revenue coverage requirement of approximately \$85,975. The District will be required to deposit \$86,275 into a reserve fund with payments of \$17,255 per year over the first five years of the loan. The District intends to raise their monthly base rate \$10 per user which will generate annual revenues of approximately \$36,000. The District also anticipates there will be 50 new connections over the next two years. Proforma net operating coverage of the water fund was 1.36x, 1.27x, 1.97x and 1.76x for 2019-2022, respectively. The existing net operating revenues of the water fund in addition to the monthly base rate increase and new connections will provide sufficient net revenues to meet the 110% coverage requirement.

As of December 31, 2022, the District has \$4,170,000 of Revenue debt outstanding. The District has one Drinking Water SRF loan with an outstanding total balance of \$4,170,000. The District is current in its payments for its outstanding Authority loans.

Funding for the construction of the District's projects has been included in a list of approved projects as prepared and updated by the Department. As an authorized participant in the DWSRF Program, the District will benefit substantially from the subsidized fixed rate loans made under the Program. Consequently, no other financing mechanism can provide a greater cost advantage than that offered by the DWSRF Program.

CENTRAL PLAINS WATER DISTRICT

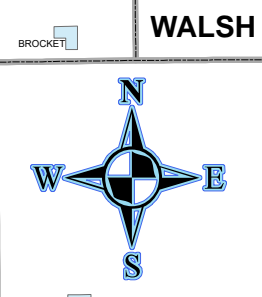
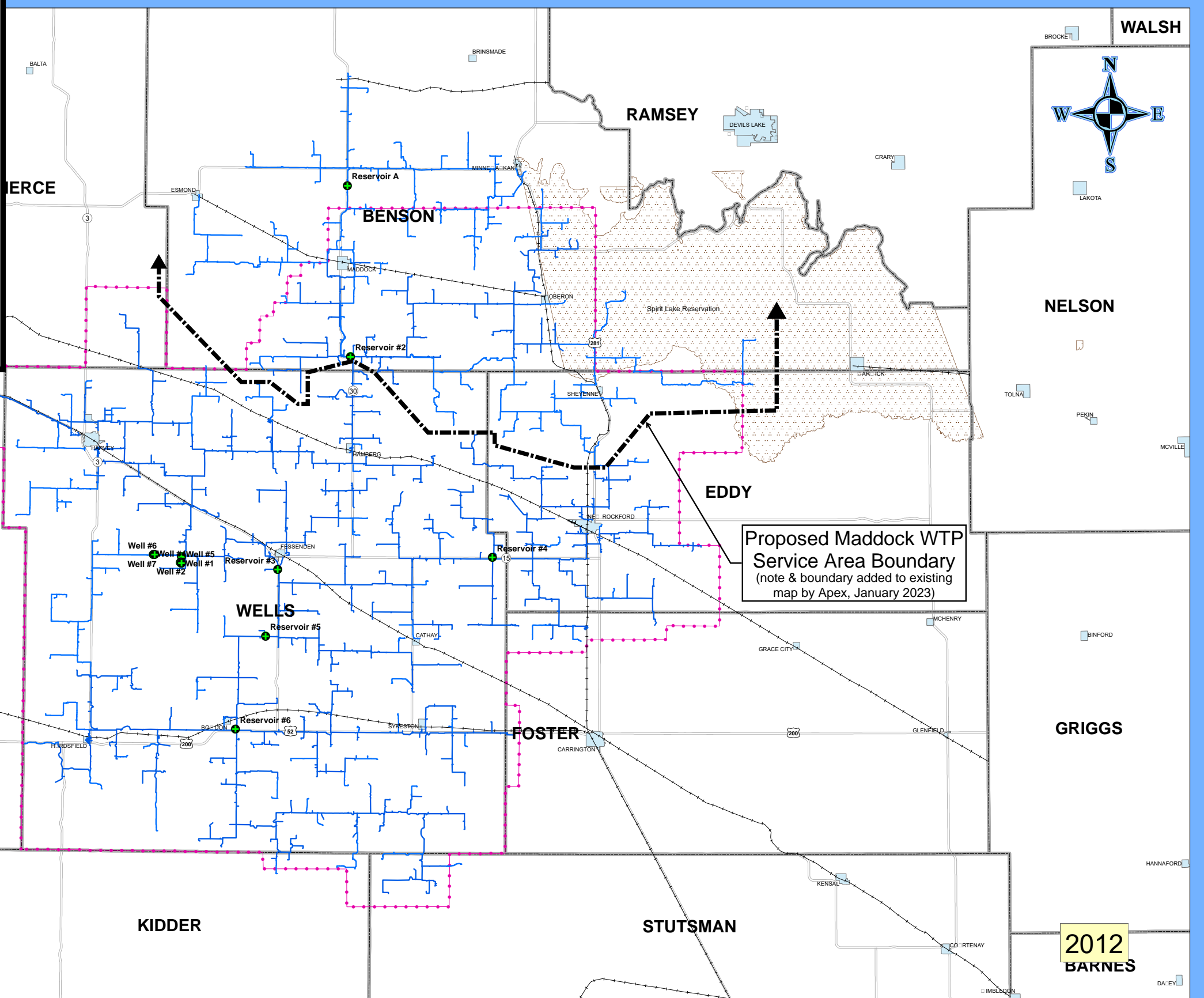


Project Location

City of Maddock

CPWD

Inset added to existing map by Apex, August 2024



Proposed Maddock WTP Service Area Boundary
(note & boundary added to existing map by Apex, January 2023)



2012
BARNES

RESOLUTION APPROVING
LOAN FROM DRINKING WATER STATE REVOLVING FUND

WHEREAS, the Industrial Commission has heretofore authorized the creation of a Drinking Water State Revolving Fund Program (the "Program") pursuant to N.D.C.C. chs. 6-09.4, 61-28.1, and 61-28.2; and

WHEREAS, the State Revolving Fund is governed in part by the Master Trust Indenture dated as of July 1, 2011 (the "Indenture"), between the North Dakota Public Finance Authority (the "NDPFA") and the Bank of North Dakota (the "Trustee"); and

WHEREAS, Central Plains Water District (the "Political Subdivision") has requested a loan in the amount of \$9,714,000 from the Program for filtration system upgrades at the Maddock water treatment plant and a new transmission line from the plant to Reservoir 2; and

WHEREAS, NDPFA's Advisory Committee is recommending approval of the Loan; and

WHEREAS, there has been presented to this Commission a form of Loan Agreement proposed to be adopted by the Political Subdivision and entered into with the NDPFA;

NOW, THEREFORE, BE IT RESOLVED by the Industrial Commission of North Dakota as follows:

1. The Loan is hereby approved, as recommended by the Advisory Committee.
2. The form of Loan Agreement to be entered into with the Political Subdivision is hereby approved in substantially the form on file and the Executive Director is hereby authorized to execute the same with all such changes and revisions therein as the Executive Director shall approve.
3. The Executive Director is authorized to fund the Loan from funds on hand in the Drinking Water Loan Fund established under the Indenture upon receipt of the Municipal Securities described in the Political Subdivisions bond resolution, to submit to the Trustee a NDPFA Request pursuant to the Indenture, and to make such other determinations as are required under the Indenture.
4. The Commission declares its intent pursuant to Treasury Regulations '1.150-2 that any Loan funds advanced from the Federally Capitalized Loan Account shall be reimbursed from the proceeds of bonds issued by the NDPFA under the Indenture.

Adopted: December 18, 2023

Governor Doug Burgum, Chairman

Attest:

Karen Tyler, Interim Executive Director
Industrial Commission of North Dakota

December 12, 2023

PUBLIC FINANCE AUTHORITY ADVISORY COMMITTEE

RECOMMENDATION TO THE INDUSTRIAL COMMISSION

The Advisory Committee, at its December 12, 2023 meeting, reviewed, discussed, and recommends approval of a \$2,497,000 Drinking Water State Revolving Fund Program loan to South Central Regional Water District.

North Dakota Public Finance Authority
Advisory Committee

Keith Lund, Chairman
Linda Svihovec
John Phillips

Industrial Commission
of North Dakota

Doug Burgum
GOVERNOR

Drew H. Wrigley
ATTORNEY GENERAL

Doug Goehring
AGRICULTURE COMMISSIONER



North Dakota Public Finance Authority

Memorandum

To: Public Finance Authority Advisory Committee
Miles Silbert, Public Financial Management
Kylee Merkel, Bank of North Dakota

From: DeAnn Ament, Executive Director

Date: December 1, 2023

Re: South Central Regional Water District, Drinking Water State Revolving Fund

Purpose of the Project: Connecting the City of Ashley to South Central Regional Water District (District).

Project Amount:

| | |
|-----------------------|--------------|
| DWSRF Request | \$ 2,497,000 |
| DWR Cost Share | 7,487,481 |
| Project Total | \$ 9,984,481 |

Users to Benefit from the Project: 613; \$16,288 per user

Users Served by the System: 8,443 connections plus 13 bulk users which include 4 cities serving a total population of 3,725

The requested term for the Drinking Water State Revolving Fund (DWSRF) loan is 30 years. The District will issue revenue bonds payable with water user fees. The average annual payment for the revenue bonds will be \$105,749. The reserve requirement will be \$111,300 and the 110% coverage requirement will be \$116,324.

The District currently provides water services to 8,443 rural connections and 4 cities in Burleigh, Kidder, Emmons, McIntosh and Logan Counties. Burleigh County users pay a monthly base rate of \$34 and \$7.50/1,000 gallons up to 10,000 gallons and \$6.50/1,000 gallons over 10,000 gallons. All other users' monthly base rate is \$40 and \$6.00/1,000 gallons. The number of connections is anticipated to grow by 151 over the next two years. Annual operations and maintenance expenses are anticipated to increase by \$45,000.

Net Operating Coverage:

| | 2019 | 2020 | 2021 | 2022 |
|---------------------------------|-------------|-------------|-------------|-------------|
| Interest Revenue | \$169,528 | \$127,631 | \$28,911 | \$114,640 |
| Operating Revenue | 7,087,972 | 8,343,690 | 9,198,369 | 8,557,714 |
| Operating Expenses | 5,567,284 | 6,388,887 | 6,893,303 | 6,588,252 |
| Net Operating Revenue | 1,690,216 | 2,082,434 | 2,333,977 | 2,084,102 |
| Depreciation | 1,970,768 | 1,999,382 | 2,066,549 | 2,066,497 |
| Adjusted Net Operating Revenue | \$3,660,984 | \$4,081,816 | \$4,400,526 | \$4,150,599 |
| Revenue Bond Payments | \$2,398,987 | \$2,398,110 | \$2,404,872 | \$2,411,345 |
| Net Operating Coverage | 153% | 170% | 183% | 172% |
| Proforma DWSRF Payment | \$105,749 | \$105,749 | \$105,749 | \$105,749 |
| Proforma Net Operating Coverage | 146% | 163% | 175% | 165% |

With the anticipated rate increase net operating revenue will be sufficient to meet the 110% net operating coverage requirement.

Listed below is a summary of the total outstanding debt of the District:

| | Original Debt | Outstanding Debt |
|---------------------------------|--------------------------|-----------------------------|
| Total Revenue Bond Debt* | \$41,234,750 | \$22,042,227 |

* All payments have been made as agreed. The District has four DWSRF loans outstanding totaling \$7,659,000. The reserve fund balance of \$4,432,845.

The current estimated population of the District is 31,604 which is an increase of 776 since the 2010 census. Major employers in the service area are Linton Hospital, Ashley Medical Center, Strasburg Care Center, Wisner Living Center (Healthcare) with 576 employees, Emmons County has 95 employees and Linton, Ashley & Wishek Public Schools employ 74.

District-Wide School Enrollment for K-12:

| 2019-2020 | 2020-2021 | 2021-2022 | 2022-2023 |
|------------------|------------------|------------------|------------------|
| 1,566 | 1,631 | 1,636 | 1,668 |

Memorandum

To: Industrial Commission

From: Kylee Merkel, Business Banker
Bank of North Dakota

Date: December 5, 2023

RE: South Central Regional Water District
Drinking Water State Revolving Fund Program

ND Public Finance Authority has delivered to BND their memo which recommends approval of a \$2,497,000 loan to South Central Regional Water District under the Drinking Water State Revolving Fund (DWSRF). The total cost of the project is \$9,984,481, with \$7,487,481 coming from a Department of Water Resources cost-share grant.

The project will connect the City of Ashley to the regional water system. The requested loan term is 30 years. The District will issue revenue bonds payable from user fees. The annual payment will average \$105,749.

Debt Service Coverage:

| | 2020 | 2021 | 2022 | Projected |
|---------------------------|------------|------------|------------|------------|
| Operating Revenue | 8,343,690 | 9,198,369 | 8,557,714 | 8,557,714 |
| Interest Revenue | 127,631 | 28,911 | 114,640 | 114,640 |
| Operating Expenses | -6,388,887 | -6,893,303 | -6,588,252 | -6,588,252 |
| Net Operating Revenue | 2,082,434 | 2,333,977 | 2,084,102 | 2,084,102 |
| Add: Depreciation | 1,999,382 | 2,066,549 | 2,066,497 | 2,066,497 |
| Adjusted Operating Income | 4,081,816 | 4,400,526 | 4,150,599 | 4,150,599 |
| | | | | |
| Current Debt Service | 2,398,110 | 2,404,872 | 2,411,345 | 2,411,345 |
| Proposed Debt Service | | | | 105,749 |
| Current Debt Service | 2,398,110 | 2,404,872 | 2,411,345 | 2,517,094 |
| | | | | |
| Debt Service Coverage | 170.21% | 182.98% | 172.13% | 164.90% |

Users located in Burleigh County pay a monthly base rate of \$34 and a usage fee of \$7.50 per 1,000 gallons. All other users pay a monthly base rate of \$40 and a usage fee of \$6.00 per 1,000 gallons. The existing user fees, will generate sufficient net operating revenues to service both the new and existing debt.

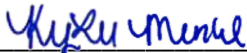
Outstanding Debt:

| | Original Amount | Amount Outstanding |
|---------------------|----------------------------|-------------------------------|
| Total Revenue Bonds | \$41,234,750 | \$22,042,227 |

Average annual debt service requirements are estimated at \$2,517,094, which is an average of \$79.64 per resident of the District.

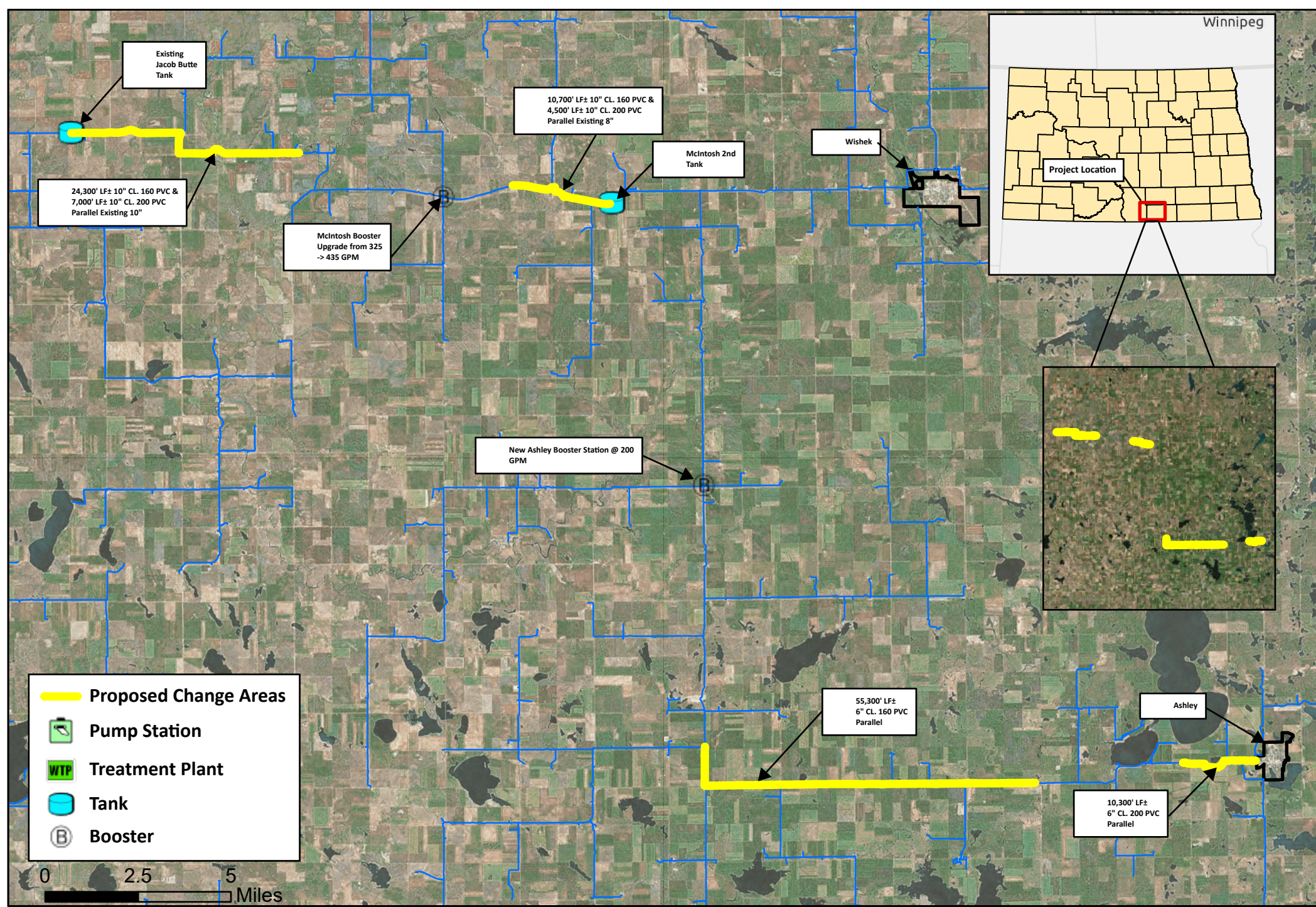
The District currently serves 8,443 residential connections and 6 bulk connections. The District provides water services to Burleigh, Kidder, Emmons, McIntosh and Logan Counties. The District's estimated population is 31,604.

Based upon the PFA recommendation and the benefits obtained with this project, BND concurs with their evaluation and support of the request.



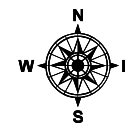
Kylee Merkel
Business Banker





South Central Regional Water District

Water Supply to Ashley, ND April 2023



RESOLUTION APPROVING
LOAN FROM DRINKING WATER STATE REVOLVING FUND

WHEREAS, the Industrial Commission has heretofore authorized the creation of a Drinking Water State Revolving Fund Program (the "Program") pursuant to N.D.C.C. chs. 6-09.4, 61-28.1, and 61-28.2; and

WHEREAS, the State Revolving Fund is governed in part by the Master Trust Indenture dated as of July 1, 2011 (the "Indenture"), between the North Dakota Public Finance Authority (the "NDPFA") and the Bank of North Dakota (the "Trustee"); and

WHEREAS, South Central Regional Water District (the "Political Subdivision") has requested a loan in the amount of \$2,497,000 from the Program to connect the City of Ashley to South Central Regional Water District; and

WHEREAS, NDPFA's Advisory Committee is recommending approval of the Loan; and

WHEREAS, there has been presented to this Commission a form of Loan Agreement proposed to be adopted by the Political Subdivision and entered into with the NDPFA;

NOW, THEREFORE, BE IT RESOLVED by the Industrial Commission of North Dakota as follows:

1. The Loan is hereby approved, as recommended by the Advisory Committee.
2. The form of Loan Agreement to be entered into with the Political Subdivision is hereby approved in substantially the form on file and the Executive Director is hereby authorized to execute the same with all such changes and revisions therein as the Executive Director shall approve.
3. The Executive Director is authorized to fund the Loan from funds on hand in the Drinking Water Loan Fund established under the Indenture upon receipt of the Municipal Securities described in the Political Subdivisions bond resolution, to submit to the Trustee a NDPFA Request pursuant to the Indenture, and to make such other determinations as are required under the Indenture.
4. The Commission declares its intent pursuant to Treasury Regulations '1.150-2 that any Loan funds advanced from the Federally Capitalized Loan Account shall be reimbursed from the proceeds of bonds issued by the NDPFA under the Indenture.

Adopted: December 18, 2023

Governor Doug Burgum, Chairman

Attest:

Karen Tyler, Interim Executive Director
Industrial Commission of North Dakota

Industrial Commission
of North Dakota

Doug Burgum
GOVERNOR

Drew H. Wrigley
ATTORNEY GENERAL

Doug Goehring
AGRICULTURE COMMISSIONER



North Dakota Public Finance Authority

Memorandum

To: Industrial Commission: Governor Doug Burgum, Attorney General Drew H. Wrigley,
Agriculture Commissioner Doug Goehring

From: DeAnn Ament, Executive Director

Date: December 12, 2023

Re: Buffalo, Clean Water State Revolving Fund

Under current policy, the Public Finance Authority can make loans under the State Revolving Fund Program in an amount not to exceed \$2,000,000 and under the Capital Financing Program in an amount not to exceed \$500,000 without seeking the final approval of the Industrial Commission. Within this policy, once the loan has been approved, the Public Finance Authority is required to provide the details of the loan to the Industrial Commission. Accordingly, the Public Finance Authority and its Advisory Committee used this policy to approve the following loans.

The committee reviewed the City of Buffalo's Clean Water State Revolving Fund application for a \$1,330,000 loan. This project will replace the 1964 four-inch asbestos concrete sanitary force main with a six-inch PVC pipe which will alleviate the excessive stress on the lift station pumps. The requested loan term is 30 years. The City will issue improvement bonds payable with special assessments. The improvement bonds will be a contingent general obligation of the City, backed by the statutory requirement that the City will levy a general deficiency tax in the event that the revenues from the collection of special assessments are not sufficient to pay the debt service on the improvement bonds.

The Public Finance Authority's Advisory Committee approved this loan at their December 12, 2023, meeting.

The DEAL Programs Guideline and changes are approved by BND Investment Committee.

SUMMARY OF DEAL PROGRAMS

Dakota Education Alternative Loan (DEAL) – Started in 1997 to help students cover the cost of attending college if federal loans, grants, scholarships, and savings did not meet funding needs.

~~**DEAL Consolidation Loan** – Started in 2007 to allow borrowers, no longer enrolled in school at half-time or full-time status, the ability to consolidate their DEAL Loans or other alternative student loans they have. It is currently for out-of-state borrowers who have an existing DEAL Loan with Bank of North Dakota (BND).~~

DEAL One Loan – Started April 21, 2014, to allow North Dakota residents, no longer enrolled in school at half-time or full-time status, the ability to consolidate all their student loan debt into one loan with BND.

DEAL LOAN PROGRAM

ELIGIBILITY CRITERIA – BORROWER

- ~~1. Borrower must be a North Dakota resident or out-of-state resident attending a North Dakota school. If borrower is not an existing BND student loan customer, their state of legal residence OR the location of the school attending must be located in one of the following states: North Dakota, South Dakota, Minnesota, Montana, Wyoming or Wisconsin.~~
2. Borrower must be at least 16 years of age.
3. Borrower must be a U.S. citizen.
4. Borrower must not be delinquent or in default on a student loan.
5. Borrower must be attending an eligible institution.
6. Borrower must be meeting satisfactory academic progress, enrollment eligibility and status as certified by an eligible institution.
7. Borrower must complete the Free Application for Federal Student Aid (FAFSA) process if attending school at least half-time.
8. Borrower's credit will be evaluated to determine if the application can be approved. A creditworthy cosigner is required if borrower does not meet BND's credit criteria.

ELIGIBILITY CRITERIA – COSIGNER

1. Cosigner must be at least 18 years of age.
2. Cosigner must be a U.S. citizen.
3. Cosigner must not be delinquent or in default on a student loan.
4. Cosigner's credit will be evaluated to determine if the application can be approved.

ELIGIBLE USES

As stated in General Loan Policy – Cost of attendance, fees, supplies, room and board, transportation and other educational expenses authorized by the school. The authorized expenses must be for a current enrollment term that has not expired.

INSTITUTION ELIGIBILITY

The DEAL Loan program can be used at eligible institutions. For an institution to be eligible, it must be:

- Accredited by the Department of Education.
- Title IV eligible.
- Classified as a public or not-for-profit institution.
- Meeting Student Loans of North Dakota's (SLND's) eligibility criteria.

BUSINESS UNIT: EDUCATION MARKET

PAGE 2 OF 8

GUIDELINE TITLE: DEAL PROGRAMS

BND Investment Committee may approve non-eligible institutions for the following situations:

- North Dakota private for-profit institutions requesting eligibility.
- Institutions must be Title IV eligible, accredited, and meet SLND's eligibility criteria. Pending litigation and other reputational information may also be considered. Institutions offering certification and/or training programs for North Dakota's workforce.
 - Scope, impact and risk will be evaluated.

CREDIT CRITERIA – BORROWER

1. Have a minimum credit score of 700.
2. Have an established credit report for at least 36 months.
3. Have at least two tradelines reported in the last three months.
4. Have no unpaid collection items.
5. No foreclosures, repossessions, or charge-offs within the last five years.
6. No education loans that are delinquent or in default.
7. Any bankruptcy filings must have been filed at least five years prior to the loan application.
8. No more than two occurrences that were 60 or more days delinquent within the last two years.
9. No account that was 90 days or more delinquent within the last two years.

CREDIT CRITERIA – COSIGNER

1. Have a minimum credit score of 600.
2. Have an established credit report for at least 36 months.
3. Have at least two tradelines reported in the last six months.
4. Have no unpaid collection items.
5. No foreclosures, repossessions, or charge-offs within the last five years.
6. No education loans that are currently delinquent or in default.
7. Any bankruptcy filings must have been filed at least five years prior to the loan application.
8. No more than two occurrences that were 60 or more days delinquent within the last two years.
9. No account that was 90 days or more delinquent within the last two years.

LOAN LIMITS

DEAL Loan – Minimum loan amount of \$500.

Borrower Loan limits – Undergraduate student is \$60,000; Graduate student is \$60,000; Total = \$120,000.

Borrowers attending University of North Dakota (UND) who are enrolled in their undergraduate aviation program may be eligible for undergraduate loan limits of \$125,000.

Borrowers attending UND who are enrolled in their graduate medical doctorate programs may be eligible for graduate loan limits of \$175,000. This is only for the Medical Doctor (M.D.) program.

INTEREST

- Setting of Rates
 - Interest rates are set quarterly.
 - Interest rates will be determined on the 15th day of the month preceding the start of a new quarter. If the 15th falls on a weekend or holiday, the interest rate will be set on the preceding business day.

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- Interest Rate Calculation
 - Fixed Rate = Federal Home Loan Bank (FHLB) 10-Year Advance Rate +2.000% ~~for North Dakota residents and +3.000% for out-of-state residents.~~
 - Variable Rate = three-month CME Term Secured Overnight Financing Rate (SOFR) +1.5000% ~~for North Dakota residents and +2.500% for out-of-state residents.~~
- Interest Rate Caps
 - Variable rate loans for all DEAL programs have a maximum variable interest rate of 10.000%.
- An interest rate reduction of 0.25% will be allowed for qualifying recurring ACH payments.

TERM

The loan will be repaid in full no later than 120 months from the first payment due date. A borrower could qualify for an extended repayment schedule not to exceed 25 years if their total student loan indebtedness exceeds \$30,000. Repayment terms may be extended by periods of deferment and forbearance.

DISBURSEMENT OF LOAN

For loan periods longer than one semester, quarter, or four months for non-term schools, the loan will be disbursed in two or more disbursements. Disbursements will be sent to the school and may be made co-payable to the borrower and the school.

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DEAL ONE/~~DEAL CONSOLIDATION~~ PROGRAM

ELIGIBILITY CRITERIA – BORROWER

1. ~~Borrower must be a North Dakota resident. Non-North Dakota resident must have an existing DEAL Loan to consolidate DEAL and non-DEAL alternative education loans.~~
2. Loans must be in a status of grace or repayment (repayment includes loans in deferment and forbearance).
3. Borrower must be at least 16 years of age.
4. Borrower must be a U.S. citizen.
5. Borrower must not be delinquent or in default on a student loan.
6. Borrower's credit will be evaluated to determine if the application can be approved. A creditworthy cosigner is required if borrower does not meet BND's credit criteria.

ELIGIBILITY CRITERIA – COSIGNER

1. Cosigner must be at least 18 years of age.
2. Cosigner must be a U.S. citizen.
3. Cosigner must not be delinquent or in default on a student loan.
4. Cosigner's credit will be evaluated to determine if the application can be approved.

DEAL ONE/~~DEAL CONSOLIDATION~~ CREDIT CRITERIA

BALANCE IS LESS THAN \$100,000. The applicant must establish or reestablish creditworthiness.

1. Creditworthy applicant must meet existing DEAL credit requirements.
 - Borrower must meet existing DEAL credit criteria for a borrower.
 - Cosigner must meet existing DEAL credit criteria for a cosigner except minimum score must be 650. If a loan has multiple cosigners, at least one cosigner must have the required score of 650.
2. Loan requests that exceed \$75,000 are reviewed by staff to determine if any additional education loan debt exists which is not being included in the loan consolidation. If excluded education loan debt along with the loan request loan amount would cause the loan amount to exceed \$100,000, the borrower must satisfy credit requirements identified below.

BALANCE IS \$100,000 TO \$500,000. The applicant must establish or reestablish creditworthiness.

1. Creditworthy applicant must meet existing DEAL credit requirements.
 - Borrower must meet existing DEAL credit criteria for a borrower.
 - Cosigner must meet existing DEAL credit criteria for a cosigner except minimum score must be 650. If a loan has multiple cosigners, at least one cosigner must have the required score of 650 (or 725 if debt-to-income ratio is high as outlined below in 8).
2. The loan maturity date cannot exceed the life expectancy date of the borrower.
 - Life expectancy is rounded up to the nearest year and is determined by using <https://www.cdc.gov/nchs/fastats/deaths.htm>.
3. BND may consider the applicant's occupation and length of time to retirement to ascertain whether the applicant's income (including retirement income) will support the extension of credit to its maturity.
4. Borrowers and cosigner(s) (when applicable) must provide a copy of their most recently completed Federal Income Tax Return. Self-employed applicants may be required to include three years of completed taxes.
5. Borrower and cosigner(s) (when applicable) must complete a Financial Statement.
 - Credit Bureau Report trade line data will be confirmed to information provided on the Financial Statement.

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6. Borrower and cosigner(s) (when applicable) must provide copies of their most recent pay stubs demonstrating three months of employment with their current employer (a minimum of two pay stubs is required). Other acceptable documents include a copy of a signed employment contract, employment acknowledgment letter, employment acceptance letter or a letter from the employee's manager indicating the likelihood of sustained employment. Documentation should include employee's name, job title, start date, hourly wage, or salary. In lieu of the previously mentioned items, a CSR may submit a form for a Borrower Exception Review.
7. If borrower and/or cosigner(s) have a debt-to-income ratio of 40% or less of their monthly gross salary (debt-to-income percent must include the new Consolidation Loan payment) the loan may be approved.
8. If the borrower and/or cosigner(s) have a debt-to-income ratio greater than 40% but less than 50% of their monthly gross salary (debt-to-income ratio must include the new Consolidation Loan payment). The loan may be approved if all of the following conditions are met:
 - One of the applicant's current credit scores is 725 or greater, and
 - Neither applicant can have a debt-to-income ratio above 50%.
 - The applicant must be lowering their payment.
 - The applicant must not have a negative repayment history with BND in the last two years, and
 - The applicant owns their own home, has a mortgage, or rents, and either or both of the following are true:
 - Combined student loan monthly payment obligation is under 12% of income.
 - Combined bank card, credit card, lines of credit and auto loan payments are under 12% of income.
9. Loan must be approved by any employee with lending authority equal to or greater than the loan amount.
 - Loan amount of \$200,000 or greater must also be communicated to SLND.

BALANCE IS OVER \$500,000.

1. Applicant must meet all requirements for loans with a balance of \$100,000 to \$500,000.
2. Loan must be approved by one of the following: BND President, CCO, CBDO or BND Investment Committee.
 - Loan must also be communicated to SLND.

LOAN LIMITS

~~DEAL One/DEAL Consolidation Loans~~—Minimum loan amount of \$1,000.

INTEREST

- Setting of Rates
 - Interest rates are set quarterly.
 - Interest rates will be determined on the 15th day of the month preceding the start of a new quarter. If the 15th falls on a weekend or holiday, the interest rate will be set on the preceding business day.
- Interest Rate Calculation
 - Fixed Rate = Federal Home Loan Bank (FHLB) 10-Year Advance Rate +2.000% ~~for North Dakota residents and +3.000% for out-of-state residents.~~
 - Variable Rate = three-month CME Term Secured Overnight Financing Rate (SOFR) +1.5000% ~~for North Dakota residents and +2.500% for out-of-state residents.~~
- Interest Rate Caps
 - Variable rate loans for all DEAL programs have a maximum variable interest rate of 10.000%.
 - Retroactive change which limits variable rate increases to be no more than 1% annually on ~~DEAL Consolidation Loans or DEAL One Loans made to a North Dakota resident.~~
- An interest rate reduction of 0.25% will be allowed for qualifying recurring ACH payments.

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REPAYMENT

Consolidation loans will enter repayment immediately with a first payment due within 60 days. Deferment and forbearance options may be available to borrowers needing temporary assistance.

TERM

Terms are set based on Consolidation Loan volume:

| | |
|----------------------------|-----------------------|
| Up to \$10,000.00 | 120 months (10 years) |
| \$10,000.01 to \$20,000.00 | 180 months (15 years) |
| \$20,000.01 to \$30,000.00 | 240 months (20 years) |
| Over \$30,000.01 | 300 months (25 years) |

Consolidation Loans over \$100,000 – The loan term cannot exceed the life expectancy date of the borrower. Life expectancy is rounded up to the nearest year and is determined by using <https://www.cdc.gov/nchs/fastats/deaths.htm>.

Repayment terms may be extended by periods of deferment and forbearance.

CONSOLIDATION LOAN ELIGIBLE LOAN TYPES

- ~~Out-of-state residents:~~
 - ~~DEAL Loan~~
 - ~~Other alternative education loans~~
- **North Dakota residents:** was expanded to include DEAL and other alternative education loans and all federal education loans listed below:
 - Subsidized Loans:
 - Subsidized Federal Stafford Loans
 - Direct Subsidized Loans
 - Subsidized Federal Consolidation Loans
 - Direct Subsidized Consolidation Loans
 - Federal Insured Student Loans (FISL)
 - Guaranteed Student Loans (GSL)
 - Unsubsidized and Nonsubsidized Federal Stafford Loans
 - Direct Unsubsidized Loans, including Direct Unsubsidized Loans (TEACH) (converted from TEACH Grants)
 - Unsubsidized Federal Consolidation Loans
 - Direct Unsubsidized Consolidation Loans
 - Parent Loans for Undergraduate Students (PLUS)
 - Federal PLUS Loans (parents or graduate and professional students)
 - Direct PLUS Loans (parents or graduate and professional students)
 - Direct PLUS Consolidation Loans
 - Federal Perkins Loans
 - National Direct Student Loans (NDSL)
 - National Defense Student Loans (NDSL)
 - Federal Supplemental Loans for Students (SLS)
 - Auxiliary Loans to Assist Students (ALAS)
 - Health Professions Student Loans (HPSL)
 - Health Education Assistance Loans (HEAL)
 - Nursing Student Loans (NSL)
 - Loans for Disadvantaged Students (LDS)

Note: Loan types are eligible federal loans as defined by the Department of Education (DOE).

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GENERAL STUDENT LOAN PROGRAM DETAILS

ADMINISTRATIVE FEES

North Dakota borrowers (regardless of where they attend school) and out-of-state borrowers who attend a North Dakota school will be assessed a 2.750% administrative fee.

- Fee will be paid by BND on behalf of borrowers.
- Fee is assessed based on the full loan amount.
- Fee is paid to SLND.

~~Out-of-state borrowers will be assessed a 3.750% administrative fee.~~

- ~~• Fee will be paid by the borrower~~
- ~~• Fee is assessed on the full loan amount and is added to the new loan balance~~
- ~~• Fee is disclosed on new loan disclosures~~
- ~~• Fee is paid to SLND~~

LATE FEES

A late fee will be charged if the borrower's full monthly payment is not received within 15 days after it becomes due. The late fee will not exceed 6.000% of the unpaid portion of the installment, or a maximum amount of \$5.00 on DEAL Loans and \$15.00 on DEAL One/~~DEAL Consolidation~~ Loans.

COLLECTION COSTS

If the borrower defaults, the entire unpaid balance and collection costs will become immediately due and payable. Collection costs may be assessed up to the maximum amount allowed under the N.D.C.C. § 15-62.1-07.

COSIGNER RELEASE

To release a cosigner from a loan, each of the following requirements must be met:

- The borrower must submit the DEAL Program Loan Request for Release of Cosigner form.
- The borrower must be found creditworthy based on the credit criteria in effect at the time the request is made.
- The borrower must reside in the U.S.
- The appropriate number of consecutive, regular on-time payments must have been made to BND.
 - For DEAL Loans, 24 regular on-time payments are required.
 - For ~~DEAL Consolidation or~~ DEAL One Loans disbursed on/after January 1, 2013, 48 regular on-time payments are required.
 - ~~○ For DEAL Consolidation Loans disbursed prior to January 1, 2013, 24 regular on-time payments are required.~~
- A regular on-time payment is a payment received within 15 days of the due date while in repayment status. This does not include payments made during forbearance or deferment periods.
- The payment counter restarts if there is a period of reduced payments, deferment, forbearance, or a payment is received more than 15 days past the due date. Exceptions to the payment requirement may be reviewed and approved by the Education Market Leadership team.
- The borrower's cumulative loan balance should be considered when reviewing for a cosigner release. Should the cumulative balance equal \$75,000 or above, a debt-to-income review will be required as part of the release requirements.

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EXCEPTIONS

Credit Exceptions

- Credit exceptions may be made if the applicant(s) can successfully dispute the reason for denial. BND may accept an updated credit report or account details. The applicant(s) must still meet all other criteria.

Debt-to-Income (DTI) Exceptions

- DTI exceptions may be made if the borrower is:
 - A current customer.
 - Not refinancing any additional debt (refinancing BND student loans only).
 - There are no changes to the cosigner (if applicable).
 - They do not have negative repayment history with BND or have shown the willingness and ability to repay.

Eligibility Exceptions

- ~~A borrower who is not from or attending school in North Dakota, Minnesota, Montana, South Dakota, Wisconsin or Wyoming may still be eligible for the DEAL program if they are a previous customer and have a North Dakota cosigner.~~

Loan Limit Exceptions

- Loan limit exceptions may be made at a borrower level or school level:
 - For the borrower, the borrower completes a "Loan Limit Exemption Request" and meets a projected monthly student loan payment to monthly debt ratio of 12% or less. Estimated debt is collected and forecasted based on credit report information, the "Loan Limit Exemption Request" and/or college transcript information. Estimated income comes from the North Dakota Bureau of Labor Statistics job data.
 - For the school, only North Dakota schools would be eligible for an exemption. The school needs to complete a "Request for Increased Aggregate DEAL Loan Limit" and the information would be reviewed by BND Investment Committee for a decision.

Lookback Loan Exceptions

- For North Dakota residents and ~~current student loan customers~~ out-of-state residents attending a North Dakota school, BND will allow for a borrower to apply for terms that have expired as long as the borrower meets all the following criteria:
 - Lookback loan application date must be within six months of the **completed term** and end date.
 - Amount certified by the school is confirmed to only cover the outstanding balance owed to the school.

**BANK OF NORTH DAKOTA
FINANCE AND CREDIT COMMITTEE TELECONFERENCE
NONCONFIDENTIAL MINUTES
Wednesday, October 18, 2023 – 11:30 a.m. CT**

MEMEBRS PRESENT

VIA PHONE: Brenda Foster, Chairman
Christie Obenauer
Bill Price

ALSO PRESENT

VIA PHONE: Sara Schumacher, BND
Rob Pfennig, BND
Kirby Evanger, BND
Kelvin Hullet, BND
Craig Hanson, BND

Chairman Foster called the meeting to order at 11:30 a.m.

Chairman Foster adjourned the nonconfidential portion of the meeting at 11:30 a.m. and the Advisory Board went into Executive Session pursuant to N.D.C.C. 6-09-35 to discuss those items on the agenda under Bank of North Dakota Confidential Business.

The Executive Session began at 11:30 a.m. and was attended by Brenda Foster, Christie Obenauer, Bill Price, Sara Schumacher, Rob Pfennig, Kirby Evanger, Kelvin Hullet, Craig Hanson, Gus Staahl, Jared Mosbrucker

The following items were considered during Executive Session:

- Problem Loans – Adversely Classified Quarterly Recap/Detail
- Third Quarter 2023 CECL Review
- Non-Accrual Loans Quarterly Recap/Detail
- Loan Charge-Offs and Recoveries Y.T.D. 09/30/2023

The Executive Session adjourned at 11:55 a.m.

Chairman Foster reconvened the Nonconfidential portion of the meeting.

Summary of Recommendations (Confidential Session):

- A recommendation will be made to the Advisory Board Committee to approve the consent agenda as presented.

Rob Pfennig presented the following items for review and discussion:

- Net income Projections

Service Area Managers presented the Third Quarter 2023 Performance Highlights. Brenda Foster recommended BND's Executive team present to the Advisory Board Committee.

Consent Agenda

- Third Quarter 2023 Swap Analysis
- Performance Management Dashboard

A recommendation will be made to the Advisory Board Committee to approve the consent agenda as presented.

NONCONFIDENTIAL FINANCE AND CREDIT COMMITTEE MEETING MINUTES

Wednesday, October 18, 2023

The next Advisory Board Finance and Credit Committee meeting will be held Wednesday, November 15, 2023.

Being no further Bank of North Dakota business, Chairman Foster adjourned the nonconfidential portion of the meeting at 12:25 p.m.

Sara Schumacher, Executive Assistant

**BANK OF NORTH DAKOTA
AUDIT AND RISK MANAGEMENT TELECONFERENCE
NONCONFIDENTIAL MINUTES
Thursday, October 19, 2023 – 10:00 a.m. CT**

MEMBERS PRESENT: Pat Clement, Chairman
Dennis Johnson
Jean Voorhees
Karl Bollingberg, (non-voting member)

ALSO PRESENT: Todd Steinwand, BND
Sara Schumacher, BND
Alison Anderson, BND
Craig Hanson, BND
Halsey Thompson, BND
Jenni Lang, BND
Lindsay Wagner, BND

PRESENT VIA PHONE: Kirby Evanger, BND
Jimmy Durante, BND

Chairman Clement called the meeting to order at 10:00 a.m.

Chairman Clement adjourned the nonconfidential portion of the meeting at 10:00 a.m. and the Advisory Board went into Executive Session pursuant to N.D.C.C. 6-09-35 & 44-04-27 to discuss those items on the agenda under Bank of North Dakota Confidential Business.

The Executive Session began at 10:00 a.m. and was attended by Pat Clement, Dennis Johnson, Jean Voorhees, Karl Bollingberg, Todd Steinwand, Sara Schumacher, Alison Anderson, Halsey Thompson, Jenni Lang, Craig Sanders, Ben Lingo

The following items were considered during Executive Session:

- IT General Controls Audit
- Third Quarter 2023 Outstanding Internal/External Audit Items
- Third Quarter 2023 Outstanding Internal/External Compliance Items
- Positive FinCEN Match
- Third Quarter 2023 External Compliance Consulting Report (TIB)

The Executive Session adjourned at 10:45 a.m.

Chairman Clement reconvened the Nonconfidential portion of the meeting.

Jenni Lang presented the following item for recommendation:

- Third Quarter 2023 External Compliance Consulting Report (Eide Bailly)

Jenni Lang presented the following items for review and discussion:

- Third Quarter 2023 Credit Review Report
- Commercial and Agriculture Loan Exception Trends

Halsey Thompson presented the following item for review and discussion:

- Third Quarter 2023 Outstanding Internal/External Audit Items

Audit Committee Consent Agenda:

NONCONFIDENTIAL AUDIT AND RISK MANAGEMENT MINUTES
Thursday, October 19, 2023

- 2023 IRS Reporting Requirements Audit
- Third Quarter 2023 Internal Audit Status Report
- 2023 Call Report Audit

A recommendation will be made to the Advisory Board Committee to approve the Audit Committee Consent Agenda as presented.

A Risk Management, Quality Assurance Providers – Information Security discussion was held.

The next Advisory Board Audit and Risk Management meeting will be held Thursday, January 18, 2024.

Being no further Bank of North Dakota business, Chairman Clement adjourned the nonconfidential portion of the meeting at 12:00 p.m.

Sara Schumacher, Administrative Assistant

**BANK OF NORTH DAKOTA
ADVISORY BOARD TELECONFERENCE
NONCONFIDENTIAL MINUTES
Thursday, October 19, 2023 – 1:00 p.m. CT**

MEMBERS PRESENT: Karl Bollingberg, Chairman
Dennis Johnson, Vice Chairman
Pat Clement
Christie Obenauer
Jean Voorhees
Bill Price

MEMBER ABSENT: Brenda Foster

ALSO PRESENT: Todd Steinwand, BND
Sara Schumacher, BND
Rob Pfennig, BND
Alison Anderson, BND
Kirby Evanger, BND
Lori Leingang, BND
Craig Hanson, BND
Jenni Lang, BND
Lindsay Wagner, BND

**ALSO PRESENT VIA
PHONE:** Kelvin Hullet, BND

Chairman Bollingberg called the meeting to order at 1:00 p.m.

Chairman Bollingberg adjourned the nonconfidential portion of the meeting at 1:00 p.m. and the Advisory Board went into Executive Session pursuant to N.D.C.C. 06-09-35 & 44-04-27 to discuss those items on the agenda under Bank of North Dakota Confidential Business.

The Executive Session began at 1:00 p.m. and was attended by Karl Bollingberg, Dennis Johnson, Pat Clement, Christie Obenauer, Jean Voorhees, Bill Price, Todd Steinwand, Sara Schumacher, Rob Pfennig, Alison Anderson, Kirby Evanger, Lori Leingang, Christy Steffenhagen, Craig Hanson, Jenni Lang, Karlene Fine, Karen Tyler

The following items were considered during Executive Session

- Consent Agenda (see Finance and Credit Committee agenda)
- Finance and Credit Committee Reports Recap
- Audit and Risk Management Committee Reports Recap
- Third Quarter 2023 Suspicious Activity Report
- Confidential Finance and Credit Committee Minutes (September 27, 2023)
- Confidential Advisory Board Minutes (September 27, 2023)
- Confidential Investment Committee Minutes (September 06, 13, 20, 27, 2023)

The Executive Session adjourned at 1:25 p.m.

Chairman Bollingberg reconvened the Nonconfidential portion of the meeting.

- A motion was made by Ms. Voorhees to approve the Finance and Credit Committee items as presented. Seconded by Mr. Johnson. Members Bollingberg, Johnson, Clement, Voorhees, Obenauer, Price voted aye. Motion carried.

- A motion was made by Ms. Clement to approve the consent agenda as presented. Seconded by Ms. Obenauer. Members Bollingberg, Johnson, Clement, Voorhees, Obenauer, Price voted aye. Motion carried.

Finance and Credit Committee made a recommendation to approve the following:

- Consent Agenda (see Finance and Credit Committee agenda)

A motion was made by Mr. Price to approve the items as presented. Seconded by Ms. Obenauer. Members Bollingberg, Johnson, Clement, Voorhees, Obenauer, Price voted aye. Motion carried.

Christie Obenauer presented for Brenda Foster a Finance and Credit Committee Reports Recap.

- BND's Executive Team presented the Third Quarter 2023 Performance Highlights.

Audit and Risk Management Committee made a recommendation to approve the following:

- Third Quarter 2023 External Compliance Consulting Report (Eide Bailly)
- Consent Agenda (see Audit and Risk Management Committee agenda)

A motion was made by Mr. Johnson to approve the items as presented. Seconded by Ms. Obenauer. Members Bollingberg, Johnson, Clement, Voorhees, Obenauer, Price voted aye. Motion carried.

Pat Clement provided an Audit and Risk Management Committee Reports Recap.

Lindsay Wagner provided a DOSS Demonstration.

Lori Leingang presented for approval the 2024 BND Holiday schedule. A motion was made by Ms. Obenauer to approve the Holiday Schedule as presented. Seconded by Mr. Price. Members Bollingberg, Johnson, Clement, Obenauer, Voorhees, Price voted aye. Motion carried.

A new committee structure discussion was held.

A New Formulation for BND Dividend Policy discussion was held.

BND Advisory Board Members presented a report of activity in their region of ND.

BND Executive Members had no Service Area Updates.

Consent Agenda

- Nonconfidential Finance and Credit Committee Minutes (September 27, 2023)
- Nonconfidential Advisory Board Minutes (September 27, 2023)
- Nonconfidential Investment Committee Minutes (September 06, 13, 20, 27, 2023)

A motion was made by Ms. Clement to approve the consent agenda as presented. Seconded by Mr. Johnson. Members Bollingberg, Johnson, Clement, Obenauer, Voorhees, Price voted aye. Motion carried.

An Advisory Board Discussion was held.

The next Advisory Board meetings will be held:

- Finance and Credit Committee Meeting – Wednesday, November 15, 2023, 1:00 p.m., Teleconference
- Leadership Development and Compensation Committee Meeting – Thursday, November 16, 2023, 8:30 a.m., Teleconference
- Group Advisory Meeting – Thursday, November 16, 2023, 10:00 a.m., Teleconference

Being no further Bank of North Dakota business, Chairman Bollingberg adjourned the nonconfidential

portion of the meeting at 4:15 p.m.

Sara Schumacher, Executive Assistant