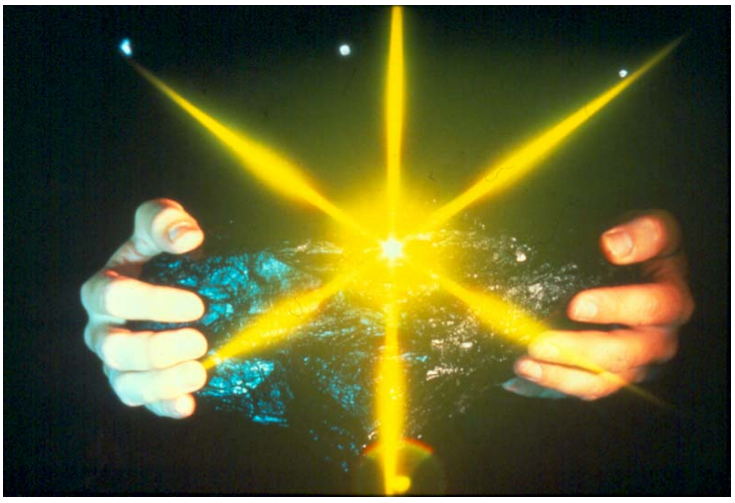
Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

North Dakota Lignite



To Liquid Fuels

Headwaters Incorporated
Great River Energy
The North American Coal Corporation
The Falkirk Mining Company

April 1, 2006

Ms. Karlene Fine
Executive Director & Secretary
Industrial Commission of North Dakota
600 East Boulevard Avenue
State Capitol, 10th Floor
Bismarck, ND 58505-0310

RE: Transmittal Letter, North Dakota Lignite Research Program Proposal "Lignite Vision 21 Project" Coal-to-Liquids Plant in McLean County, ND By Headwaters Incorporated, Great River Energy, The North American Coal Corporation & The Falkirk Mining Company

Dear Ms. Fine,

Enclosed please find 5 hard copies and a PDF electronic file of the above referenced project proposal which Headwaters Incorporated, Great River Energy, The North American Coal Corporation, and The Falkirk Mining Company are submitting for consideration under the North Dakota Lignite Research Program. This transmittal letter represents a binding commitment by Headwaters Incorporated, Great River Energy, The North American Coal Corporation, and The Falkirk Mining Company for completion of the project as described in the proposal. Also enclosed is a check made out to the State of North Dakota as payment of the $100 application fee.

Sincerely,

David Saggau
President and CEO
Great River Energy

Dan W. Swetich
President
The Falkirk Mining Company

Kirk A. Benson
President and CEO
Headwaters Incorporated

Robert L. Benson
President and CEO
The North American coal Corporation

Enclosures

Headwaters Incorporated
Great River Energy
The North American Coal Corporation
The Falkirk Mining Company

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FALKIRK
THE FALKIRK MINING COMPANY
A SUBSIDIARY OF THE NORTH AMERICAN COAL CORPORATION
P. O. Box 1087
Underwood, ND 58576-1087
(701) 442 - 5751

Wells Fargo Bank, N.A.
401 PLUM STREET
RED WING, MN 55066

75-46
919

Check Number 00096683

Date	Amount
03/31/06	$*******100.00

Void After Six Months

Pay

ONE HUNDRED AND 00/100**********

To the Order Of:

STATE OF NORTH DAKOTA
600 EAST BLVD
BISMARCK ND 58505-0360

D. W. Sweet /
K. Donald Grischow

Authorized Signature

⑈00096683⑈ ⑆091900465⑆ 23296⑈

THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND ON WHITE PAPER AND HAS AN OPAQUE FEATURE ON THE BACK.

THE FALKIRK MINING COMPANY
A SUBSIDIARY OF THE NORTH AMERICAN COAL CORPORATION
P.O. BOX 1087
UNDERWOOD, ND 58576-1087
(701) 442 - 5751

Detach Statement Before Depositing

Check Number 00096683
Check Date 03/31/06
Vendor Number 42083

Invoice Number	Invoice Date	Description	Gross	Deductions	Amount Paid
3/31/2006	03/31/06	LV 21 Grant Applicatio	100.00		100.00

F126565

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

Submitted to:

Ms. Karlene Fine
Executive Director, Secretary
Lignite Research Program
Industrial Commission of North Dakota
600 East Boulevard Avenue
Bismarck, ND 58505

Applicants:

Great River Energy
2875 Third Street SW
Underwood, ND 58576-9659

Headwaters Incorporated
10653 S. River Front Parkway
Suite 300
South Jordan, UT 84095

The North American Coal Corporation
14785 Preston Road
Suite 1100
Dallas, TX 75254

The Falkirk Mining Company
2801 1ST Street SW
Underwood, ND 58576-1087

Principal Investigator:

Headwaters Incorporated – James Lepinski

Amount Requested:

$10,000,000 over two years

Date: **April 1st, 2006**

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

TABLE OF CONTENTS

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

ABSTRACT

Headwaters Incorporated (Headwaters), Great River Energy (GRE), The North American Coal Corporation (NAC) and The Falkirk Mining Company (Falkirk) hereinafter referred to as the Partners, desire to design, construct and operate a Coal-to-Liquids (CTL) plant in McLean County, North Dakota. The Partners intend to expand the Falkirk Mine to supply lignite to the CTL plant which will utilize proven gasification and indirect liquefaction technologies to convert the lignite to a high quality, low emissions diesel or jet fuel, generate electricity and produce other co-products. The Partners are currently conducting feasibility studies and are requesting Lignite Vision 21 grant funds to enable the Partners to begin the front-end engineering and design (FEED) process to obtain the necessary environmental permits and to prepare capital and operating cost estimates to enable them to obtain financing for the construction of the project.

The Partners anticipate that it will take $50 million and up to 30 months to complete the FEED process to take the project to financial closure and to the point where final design, procurement and construction can begin. It is projected that it will take from 2 ½ to 3 years to construct the first stage of the CTL plant after permits and financing are acquired. Total cost of construction, including the mine expansion, is expected to exceed $1 billion.

The initial phase of the CTL plant will use approximately 3 million tons of North Dakota lignite per year to produce liquid fuel at the rate of about 10,000 barrels per day.

Eventually, the plant may be expanded to five phases or 50,000 bpd, which will require a capital investment of $3 to $4 billion and a total of approximately 15 million tons of North Dakota lignite annually.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

PROJECT SUMMARY

The Coal-to-Liquids project in McLean County will initially be a 10,000 barrel per day (bpd) indirect liquefaction lignite to diesel or jet fuel conversion plant. It is envisioned that the plant can eventually be expanded to a total output of 50,000 bpd of high grade diesel fuel, jet fuel, naphtha, electricity and other products. The first part of this project, for which the Lignite Vision 21 funds are being requested, will be to complete the front-end engineering and design (FEED), which will include permitting, pilot plant testing and basic design of gasification, liquefaction and ancillary components of the plant.

The project activities are organized under the following areas and tie to the project cash flows and timing as defined in the Budget section of this grant application.

- Home Office
- Permitting
- Pilot Plant Testing
- Engineering
- Schedule A Packages
- Initial Royalties

When the FEED activities are completed all permit applications necessary for construction approval will have been submitted to the appropriate agencies for review and capital and operating costs projections sufficient to enable the Partners to obtain financing for the engineering procurement and construction (EPC) part of the project will have been completed. A summary of each of the project areas follows:

Home Office

- Project Management- Control schedule and costs, develop and maintain working relationships, communicate, negotiate contracts
- Legal – Prepare definitive agreements and contracts
- Commercial – Conduct market studies, develop market, identify off takers, obtain off-take agreements and construction financing
- Technical – Draft design basis, requests for proposals (RFPs), review proposals, coordinate engineering and environmental activities, assure quality of work
- Financial – Perform financial modeling, update project economics
- Accounting – Monitor and report costs, pay bills.
- Out of pocket costs – Consultants, travel, etc.

Permitting

The Partners envision a permitting process for the project that will include an environmental impact statement (EIS), new source review (NSR), water permits and siting permits, all of which will require various levels of local, state and federal review. It is envisioned that this permit process will require extensive in-house time by staffs of the Partners as well as the assistance of outside contractors for various parts of the process. It

is envisioned that this task will culminate in the permits necessary to commence construction of the facility.

Pilot Plant Testing

During the FEED process there will be extensive pilot plant testing completed to fine tune and optimize the lignite drying, gasification, syngas treatment, Fischer-Tropsch (FT) synthesis and product upgrading processes to provide the optimum information for the design of the CTL plant. The pilot plant testing will include tests on the Falkirk lignite to determine the best means of drying, pulverizing and conveying the coal into the gasifiers. Gasification testing will be used to determine the optimal process to be used in this plant, as well as requirements for gas cleaning and conditioning. FT synthesis testing will be completed to determine the optimum process to use and in making catalyst selections. Pilot plant testing will help determine product upgrade catalysts and processes and will also provide samples of products for potential end user evaluation.

Engineering Contractor

The engineering contractor section includes several Partner internal tasks and outside contracts to provide the information needed to prepare capital and operating cost estimates of the proposed facility. The following information will be utilized in the permitting process and in the process of obtaining financing for the EPC phase of the project:

- Input for environmental studies and permitting
- Site geotechnical studies

- Selection of technology providers
- Review of Engineering, Procurement and Construction (EPC) contractors
- Review and incorporation of technology Schedule A packages including: coal drying, gasification, acid gas removal, FT synthesis, FT product upgrade and air separation unit
- Engineering of non-licensed units
- Preparation of plant-wide heat and material balances
- Preparation of integrated process flow diagrams and piping and instrumentation diagrams
- Preparation of integrated plot plans and elevation drawings
- Preparation of civil works and construction materials
- Preparation of EPC execution plan
- Preparation of capital and operating cost estimates
- Preparation of mine plans and permits for the mine expansion

Schedule A Packages

Many of the key technologies for the CTL project are available only through specific vendors of proprietary technology. The key technology areas and vendors are as follows

- Coal Drying – GRE, RWE, Lurgi
- Gasification – Shell, Future Energy
- Acid Gas Removal – Lurgi, UOP, Shell
- FT Synthesis – Sasol, Syntroleum, Rentech, HTI

- FT Product Upgrading – UOP, Chevron, HTI
- Air Separation Unit – Air Liquide, Air Products, BOC, Praxair

The selected technology providers will be tasked with providing “Schedule A Packages” which typically include the following:

- Process Design Basis
- Process Description and Flow Diagrams
- Material Balances
- Equipment List and Process Specifications
- Spare Parts Philosophy
- Utilities, Catalysts and Chemicals
- Plot Plan and Elevation Drawings
- Major Primary Instrumentation Loop
- Units and Facilities Inter-Relationships diagram
- Staffing, Maintenance, Operators
- Patents
- Operating and Shutdown Philosophy
- Safety and Environmental Manual
- Operating Cost
- Investment Cost and Fees
- Proven Vendors

Initial Royalties

Most vendors of the proprietary technology will require entering into a license before supplying the "Schedule A package" information described in the previous section. License fees are typically calculated as a percentage of total plant cost. The partners will attempt to negotiate a reimbursement of the fees if the project does not proceed. Partial payments for the license fees are typically made on the following schedule:

- Signing of the license agreement
- Release of the construction funding
- Start of construction
- Plant performance passing performance guarantee.

Only the fees associated with the signing of the license agreement are requested in this grant application.

The partners envision that information gathered during the FEED process (permitting, pilot plant testing, gasification and liquefaction process design, as well as the capital and operating cost estimates) will be used in discussions with lenders in order to obtain full plant construction financing. Once project financing and appropriate permits are secured, the partners will engage an EPC firm and the detailed engineering, procurement and construction can commence.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

PROJECT DESCRIPTION

On August 9, 2005, Headwaters Incorporated, Great River Energy, The North American Coal Corporation and The Falkirk Mining Company (hereinafter referred to as Partners) announced the signing of a Memorandum of Understanding (MOU) to develop a coal-to-liquids (CTL) plant capable of producing approximately 10,000 barrels per day of ultra-clean diesel and other liquid fuels, as well as electricity from an IGCC power block. The plant will be expandable up to 50,000 barrels per day of liquid fuels production. The proposed site for the CTL project is near Great River Energy's Coal Creek Station, in McLean County, ND, approximately five miles south of Underwood, ND and nine miles northwest of Washburn, ND.

There are three key and sequential steps to developing the CTL project in McLean County. First, as proposed in this application, is to obtain funding and complete the front-end engineering and design (FEED) for the project, next the Partners will secure complete project financing, and then construct the 10,000 barrel per day (bpd) CTL plant.

The CTL plant will use indirect coal liquefaction technology to convert lignite into ultra-clean transportation fuels, electricity and other co-products. In this process the coal is dried, pulverized and gasified to form a synthesis gas (syngas) rich in carbon monoxide and hydrogen. The syngas is purified to remove carbon dioxide and other contaminants and then fed to the Fischer-Tropsch (FT) synthesis reactor, where the

carbon monoxide and hydrogen react to form long-chain paraffinic hydrocarbons. The liquid and wax hydrocarbon products are further upgraded into distillable liquids such as diesel fuel, jet fuel and naphtha. This technology was initially developed in Germany in 1923 and commercial plants with similar technology are currently operating in South Africa. The FEED process, for which these Lignite Vision 21 funds are being requested, will include environmental site assessment, permitting, pilot plant testing and preliminary design of gasification, liquefaction and ancillary components of the plant, and will take approximately 30 months to complete. The results of this process will be used to prepare the economic and technical information necessary to secure construction financing for the project.

The permitting process for the FEED will include an environmental assessment of the entire project to determine which regulatory and permit requirements at the Federal, State and local levels will apply to the Project and to apply for the necessary permits. The following list of potential permits will be evaluated in the assessment to determine which permits will be required:

Federal

- NEPA – National Environmental Policy Act Requirements – Environmental Assessments (EA) or Environmental Impact Statements (EIS) may be required for plant site investigations. Site assessment work completed in approximately 2000 by Great River Energy and The Falkirk Mine may be used in part or completely to reduce the cost and time involved with the NEPA process. Because of current Surface Mining Control and Reclamation Act (SMCRA) requirements, these

NEPA permits may not be required for the mine expansion. This EA/EIS process can take up to two years. The lead agency must be identified (BLM, etc.). A consultant that manages and completes the assessment is generally chosen by the lead agency.

- Clean Water Act - Section 404 Permit Applications – Corp. of Engineers (COE) – Nationwide Individual Permits (Wetlands) – Environmental Protection Agency (EPA)
- Spill Prevention, Control and Countermeasure Plan – If more than 1,320 gallons of petroleum products will be stored on site at the plant, Section 112 of the Clean Water Act (Spill Prevention Control and Countermeasure Plan) will apply to the plant. This requires the preparation of a written plan that is stamped by a licensed professional engineer. In addition, annual training is required; periodic tank integrity testing is also required. The regulations require secondary containment for storage as well as other spill prevention measures.
- Another requirement that must be fulfilled under the Clean Water Act is the preparation and maintenance of a Facility Response Plan (FRP) if the oil storage capacity of the plant is greater than 1,000,000 gallons and a release could reach an environmentally sensitive area. This plan must be submitted to EPA and if EPA considers the facility to pose "a substantial risk" to the environment, the plan must be approved by EPA. Requirements of the plan include but are not limited to the onsite presence of adequate response equipment and the timely availability of spill response personnel.
- Endangered Species Act (ESA) – USFWS Bismarck Ecological Office

- Surface Mining Control and Reclamation Act (SMCRA) – Office of Surface Mining (OSM) –North Dakota Public Service Commission (NDPSC) – Mining permit requires a completed mining and reclamation plan including surface owner protection. State function - as ND has primacy over federal agency OSM.
- Clean Air Act – (Title V) – see State section - North Dakota Department of Health (NDDH) has primacy for air permitting with EPA having oversight.
- National Historic Preservation Act (Section 106 Requirements) – Archeological and historical sites or features – North Dakota State Historical Society.
- Resource Conservation and Recovery Act (RCRA) requires hazardous waste treatment, storage, and disposal facilities (TSDFs) to obtain RCRA registrations and permits from their state agency or EPA. Unless the mine and/or plant plan to treat, store (for more than the regulatory allowed threshold period) or act as a disposal site for hazardous waste, a hazardous waste permit is not required. A RCRA ID number will be required and a notice of hazardous waste generating activity will be required to be filed with EPA (and likely with the NDDH).

State

- Air Permit to Construct – (NDDH) – Clean Air Act – (Title V) Title V permits are usually issued by state and local permitting authorities with EPA oversight. These permits are often called Part 70 permits, because the regulations that establish minimum standards for state permit programs are found in the Code of Federal Regulations at 40 CFR Part 70. NDDH has an air quality division that handles all air permitting requirements. A major consideration for Title V permitting is

whether the CTL plant will be allowed to obtain its own Title V permit or if the mine's Title V permit (or existing minor source permit) will require modification to include the CTL plant. Another likely major permitting requirement for the CTL plant will be a PSD permit. This is the state (and federal) equivalent of a pre-construction permit for major sources or modifications. A key question is whether NDDH/EPA will allow the CTL plant to be permitted separately or require that the mine and plant be permitted as one facility, since the CTL plant is directly dependent on raw material from the mine. The PSD permitting process for the plant construction site will require air dispersion modeling and best available control technology (BACT) analysis.

- Air Permit to Operate - (NDDH) – Minor source operating permit or Title V operating permit – The Falkirk Mining Company would need to revise current minor source permit to add additional tons. The CTL Plant will most likely require a Title V operating permit prior to startup. See the Clean Air Act section above.
- State Mining Permit – (NDPSC) – State retains primacy over federal agency OSM – The Falkirk Mining Company would need to revise mining permits to add additional tons.
- North Dakota Pollution Discharge Elimination System Permit (NDDH) – required to discharge water from plant and mine site. The Falkirk Mine has a North Dakota Pollution Discharge Elimination System (NDPDES) Permit. An industrial wastewater discharge permit under the NDPDES program will be required if the plant’s waste water treatment plant is to discharge. It will need to be determined

whether NDDH will allow a single permit for storm water and industrial wastewater or if separate permits will be required. A Storm Water Pollution Prevention Plan will be required for compliance with the Storm Water Permit.

- A Construction Storm Water Permit and corresponding Construction Storm Water Pollution Prevention Plan will be required before construction commences and will need to be maintained throughout the construction process.
- Legal Drain Permit – State Water Commission (SWC) – will likely be required if discharging water other than surface water (i.e. ground water). Coal Lake Coulee and Underwood Coulee Legal Drains are currently established within the plant and mine site boundaries.
- Wetland Drainage Permits – State Water Commission, County Water Board, and COE. All three agencies need to be involved at sometime to complete the process. The mine is currently covered by a Nationwide 21 Permit.
- Water Use Permit – State Water Commission – required by state prior to using water (ground or surface) within mine or plant.
- North Dakota State Historical Society – State Historic Preservation Officer (SHPO) – previous cultural surveys conducted by The Falkirk Mining Company have identified several archaeological and historic sites. Archaeological sites containing stone circles, rock cairns, and burial mounds have been identified within the mining boundary. Tribal consultation has been handled with the three affiliated tribes, New Town, ND.
- Hazardous Waste Management (NDDH) - Hazardous Waste Program (HWP) works with generators of hazardous waste to ensure that all hazardous waste

management activities in North Dakota comply with North Dakota's Hazardous Waste Management Rules. North Dakota is an authorized state; the HWP implements the requirements of RCRA in lieu of EPA's program. The mine is currently considered a conditionally exempt small quantity generator and therefore falls outside these requirements. The CTL project team will need to verify waste streams and proceed as required. If the plant is a large quantity generator (LQG), a RCRA contingency plan and annual training will be required. Implementation of a Universal Waste Management Program will also be required. The extent of this program is dependent on the quantity of universal waste handled onsite.

- Solid Waste or Disposal Permit — (NDDH) will be required if onsite waste disposal will take place. Coal Creek station currently has several solid waste permits for ash and other waste disposal. The mine does not have a solid waste permit and does not anticipate needing one.
- Pollution Prevention Program (NDDH) — The Partners will work with the State to look at ways to reduce the amount of waste generated and how the waste can be recycled or reused. Writing a Pollution Prevention Plan can create a positive relationship with the State Waste Management Division. These plans are not always required.

County/Local

- Conditional Use Permit — The McLean County Planning and Zoning Commission and County Commission must be satisfied that the granting of a

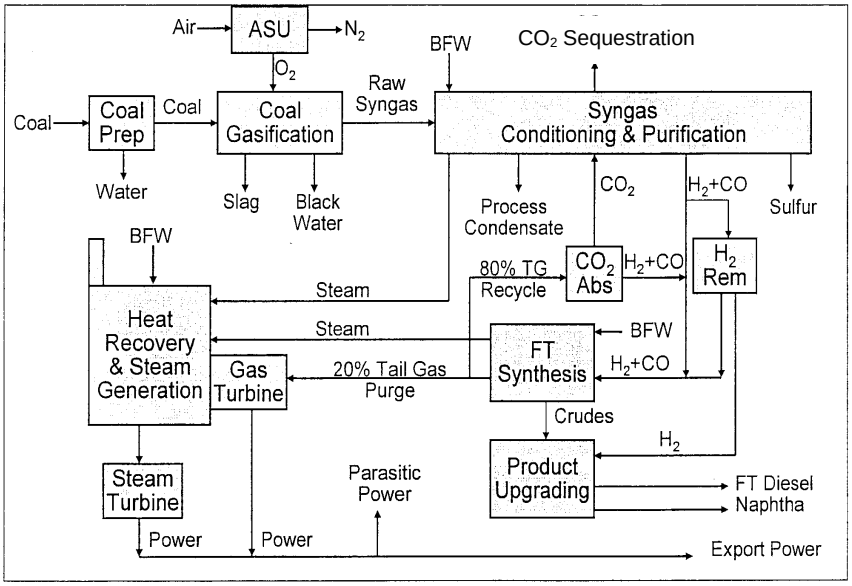
conditional use permit will promote the health, safety and well being to the citizens of McLean County. McLean County may require an Environmental Impact Statement and special public hearings. The Falkirk Mine and Coal Creek station have applied for several conditional use permits over the past 30 years.

- County Road Closures — McLean County Road Superintendent and Commission have jurisdiction — The mine and Coal Creek station have both closed and opened roads through this process.

The Partners envision that this permitting process will require the use of outside contractors and consultants, as well as Partner's staffs to complete the assessment and prepare permit documents for submittal to all required agencies. The Partners anticipate working closely with all agencies at all levels of government to meet the requirements of the permit and regulatory process.

During the FEED phase of the project there will be extensive pilot plant testing completed to fine tune and optimize the design of the CTL plant. The diagrams and discussion below provide a description of the CTL process and technology which the pilot plant testing will provide design parameters for:

CTL Process Flow Diagram



Coal Handling (not shown above)

Coal is delivered by conveyor belt to the transfer house, where it can be directed with diverters (in order of preferred operation) to slot storage, or at a reduced tonnage, to the CTL plant. Coal reclaimed from the slot storage is moved on conveyor to the transfer house. From there, the reclaimed coal can be directed to the CTL plant on conveyors. Slot storage provides capacity for up to 6 days of uninterrupted feed to the CTL plant. The detailed assessment will verify the actual storage capacity required, considering the mine's supply reliability. Slot storage will provide almost all of the active capability for the CTL plant. In an emergency, the mine can feed the CTL plant, bypassing the slot storage. A long-term dead storage pile is not likely necessary because the source of the raw coal is close by and alternative routes of transportation exist to move coal from the mine to the CTL plant.

Coal Preparation

The entrained flow gasifier is fed dried pulverized coal by means of a pneumatic dense flow conveying system using nitrogen or carbon dioxide as carrier gas. For such a system the residual moisture content is critical for proper fluidization and dense-flow characteristics. If the coal moisture is too high, fluidization is obstructed by agglomeration and arching of coal particles caused by water on the surface of the particles. On the other hand, since coal drying requires heat and equipment and hence adds costs, it is desirable to dry the coal to only the maximum allowable residual moisture for trouble free fluidization and dense-flow conveying.

In the coal preparation section, coal will be partially dried down to approximately 25% moisture using fluidized bed waste heat drying technology. Then the partially dried coal will be milled down to 80% passing a 200 mesh screen in a pulverizer that will further dry the coal to 8 – 10% moisture by weight. Nitrogen purging will be used to prevent combustible conditions.

Air Separation Unit

Oxygen for gasification is separated from air in a cryogenic air separation unit (ASU). The oxygen is compressed and vaporized against a stream of condensing high pressure air within the ASU main heat exchanger. The gaseous oxygen at a purity of 99.5% is preheated with low pressure steam before being fed to the gasifier at 580 psig. A small amount of nitrogen produced by the ASU is stored and used for purging and

inerting within the FT liquids plant. The waste nitrogen is used for coal drying and grinding as described above.

Coal Gasification

Selecting the correct gasification technology is one of the key steps in developing a CTL project, because it has the greatest impact on the overall capital cost of the facility. North Dakota lignite is high in moisture; therefore the coal gasification selection will likely be a dry-feed gasifier because lignite fines are agglomerating and difficult to slurry feed. Entrained-flow gasifiers (Shell and Future Energy) are favored over moving-bed gasifiers (Lurgi) for CTL because they are more efficient (utilize all of the feedstock, including fines) and produce a cleaner H_2 + CO syngas for FT synthesis.

The prepared coal feed is pneumatically conveyed from coal preparation to isolated lock hoppers. The coal is released from the lock hoppers and carbon dioxide or nitrogen carrier gas is used to convey the coal to the burner(s) of the gasifier.

The coal feed plus carbon dioxide or nitrogen carrier gas is contacted with 99.5% pure oxygen at the burner(s) and is converted into synthesis gas (syngas) containing primarily H_2 and CO, together with some steam, CO_2, CH_4 and Ar. The sulfur in the coal is converted to H_2S with some COS and the chlorine in the coal is converted to HCl. Small amounts of HCN and NH_3 are also produced. A small amount of carbon remains as soot.

The syngas, impurities and particulates leave the gasification zone at approximately 2900°F and are cooled directly or indirectly. The cooled syngas is filtered

and/or scrubbed to remove particulates. The syngas is then routed to the syngas conditioning section for further processing.

The slag exiting the gasifier bottom is quenched and delivered to the slag handling unit for treatment. The slag/water slurry is transferred to a drag conveyor, where the slag is separated from the water. The remaining water, called black water, is flushed and pumped to the black water section for treatment.

Syngas Conditioning and Purification

In this section, syngas H_2/CO ratio is shifted to 0.8 as desired for the FT synthesis section. Furthermore COS is hydrolyzed to H_2S; mercury is removed; and H_2S and CO_2 are removed in the acid gas removal (AGR) unit.

CO Shift (shift of CO to H_2 via the water-gas shift reaction)

The raw syngas from the gasification unit is heated to 446°F by CO shift effluents, mixed with steam and is split into two streams. The smaller of the two streams, approximately 30% of the total syngas, is heated up to 572°F in the CO shift reactor heater and fed to the CO shift reactor where the majority of the CO present reacts with steam to form H_2 and CO_2 and exits the reactor at 970°F.

COS Hydrolysis (conversion of COS to H_2S)

The effluent from the CO shift reactor is cooled down by generating 493 psig steam and heating up the CO reactor feed. This effluent is then added to the remainder of the syngas, and the mixture is cooled down to 425°F and fed to the COS hydrolysis

reactor where the carbonyl sulfide (COS) is converted to H_2S via the hydrolysis reaction: $COS + H_20 = CO_2 + H_2S$. The resulting gas is sent to the acid gas removal unit.

Syngas Cooling

The raw syngas is first cooled to a temperature of 122°F. The heat released from this cooling provides heat:

- To generate low pressure (LP) steam
- To heat up the treated syngas
- To heat up boiler feed water (BFW)
- To heat up demineralized water (DMW)
- To heat hot water loop for heating nitrogen gas for coal drying

The process condensate produced by cooling of the raw syngas is separated in two syngas knock out drums, combined together and returned to the syngas scrubber.

Mercury Absorber

The cooled raw syngas is introduced to the mercury absorber where mercury is captured on sulfided activated carbon offered by Calgon. Such carbon is currently used at the Eastman Chemical gasification plant in Kingsport, TN. Experience has shown that this kind of activated carbon is even more effective for capturing arsenic in the form of arsine. It is also expected to capture cadmium and selenium compounds, as well as any metal (Ni and Fe) carbonyls in the raw syngas. Total mercury capture is expected to be better than 95% of the mercury contained in the coal feed as received.

Acid Gas Removal

On leaving the mercury absorber, the syngas is passed to the acid gas removal unit. The acid gas removal unit could use Rectisol, Selexol or Sulfinol technologies. In acid gas removal H_2S and CO_2 are removed from the syngas.

CO_2 Recycle

The clean CO_2 extracted from the syngas is partially recycled as a carrier gas for pneumatic dense transport of the dry coal to the gasifier. The remaining clean CO_2 is available for compression and sequestration. The non-clean CO_2 stream has a significant heating value due to its content of H_2, CO and hydrocarbons, and it is sent to the fuel header for generation of high pressure (HP) steam in the auxiliary boilers.

Sulfur Recovery

The H_2S rich gas stream is routed to the Claus sulfur recovery unit where it is processed with oxygen from the ASU to produce liquid sulfur product. The overall plant sulfur capture efficiency is expected to exceed 99% of the sulfur contained in the coal feed as received. The elemental sulfur is available as a liquid product for sale.

Syngas Purification

The treated syngas is sent to the desulfurizer, where any residual H_2S present is absorbed onto the zinc oxide catalyst. The resulting purified syngas at 300°F and 393 psig is fed to the FT Synthesis section.

Hydrogen Removal

A small fraction of the purified syngas is fed to a hydrogen membrane where sufficient hydrogen is extracted to hydrotreat the crude products in the product upgrading unit. The non-permeate from the hydrogen membrane unit is added to the remainder of the purified syngas, and the mixture is heated in the feed heater and fed to the FT reactor(s).

The hydrogen rich-gas from the hydrogen membrane unit is compressed and fed to the pressure swing absorption (PSA) unit, where the gas is purified to produce hydrogen gas for product upgrading.

Fischer-Tropsch (FT) Synthesis

The FT synthesis is based on a FT catalyst in slurry bubble column reactors. In the FT synthesis reactor, the hydrogen and carbon monoxide in the purified syngas reacts over an iron catalyst to produce a FT product consisting of a mixture of light hydrocarbon gas (C_4 and below), naphtha (C_5 to C_9), middle distillate (C_{10} to C_{19}), wax (C_{20} and above), organic alcohols, organic acids and water at 490°F and 345 psig (reactor exit).

The FT synthesis reaction is exothermic, and the heat released is used to generate medium pressure (MP) steam in dedicated steam drums above each reactor.

The wax product with small quantities of the other products and 15-20% catalyst is extracted as slurry from the inside of the reactor. The majority of the catalyst is separated from the slurry in a dynamic settler and the remaining catalyst is filtered in a secondary separator. The rest of the products (primarily water and C_{20} and below) leave the top of the reactor. This is cooled by heating up MP BFW followed by tempered water

to 140°F. The resulting condensate product (mainly middle distillate and water) is separated in the hot overhead separator. The gas from the hot separator is cooled further in two stages (with cooling water followed by chilled water) to 41°F. The resulting condensate (mainly naphtha and water) is separated in the cold overhead separator.

The off-gas, also called FT tail gas, from the cold separator either is sent as fuel to the gas turbine and/or is partly recycled back to the inlet of the FT reactor for increased conversion.

The crude hydrocarbon liquids (middle distillate and naphtha) are sent either to the product upgrading unit for further processing or to storage. The crude wax is processed in the secondary separator (wax filter system) to remove residual FT catalyst before being sent to the product upgrading unit for further processing or to storage.

The production rate from the FT synthesis section is approximately 425 barrels per hour with a volumetric composition of 7% naphtha (C_5 to C_9) 19% of middle distillate (C_{10} to C_{19}), 74% of wax (C_{20}^{+}). The crude product composition will depend somewhat on actual syngas composition and process configuration, e.g. recycle vs. once-through.

FT Catalyst Activation Unit

The FT catalyst activation unit is a miniature version of the FT synthesis reactor. The iron catalyst required for the FT synthesis is prepared in this section and charged to each of the FT synthesis reactors at regular intervals according to the schedule designed to ensure a steady catalyst activity in the reactors.

Product Upgrading

In this section, the crude products from the FT synthesis section are upgraded and reprocessed to produce the final saleable naphtha and diesel products. Product upgrading consists of four areas, namely: feed stripper column, distillate hydrotreater, wax hydrocracker and treated product recovery.

Feed Stripper Column

The crude naphtha and crude diesel recovered in the cold and hot separators respectively contain significant quantities of CO and CO_2. CO is a catalyst poison that must be removed. CO and other residual light-ends are stripped out in the feed stripper column. Crude naphtha and middle distillate from the crude storage tanks can also be pumped to the top of the feed stripper column. MP steam is used to vaporize part of the bottoms in the thermo-siphon reboiler. The resulting column overhead vapor is routed to the fuel gas mixing drum where it is used as plant fuel.

Distillate Hydrotreater

The stripper bottoms stream is compressed to reactor pressure and heated to the required reactor feed temperature by heat exchange with hydrotreater effluents.

In order to reduce capital investment, the hydrocracker and hydrotreater sections will be combined so that not only are the recovery columns shared, but so are the HP separator, effluent air cooler and recycle compressor.

Effluent Air Cooler and Recycle Compressor

Preheated feed from the feed stripper column is mixed with recycle gas from the recycle compressor, and the mix is fed to the hydrotreater reactor. The hydrotreater reactor is of the down-flow trickle-flow type containing a nickel catalyst with two or three beds to permit inter-bed quenching. The hydrotreated effluent is cooled and added to the hydrocracker reactor effluent as explained below.

Wax Hydrocracker

Crude wax products from the crude storage tank is pumped, added to the recycle steam from the hydrocracker and flashed to remove residual light ends. Any flashed gas is routed to flare or to fuel. The mix of recycle and fresh feed is pumped to reactor pressure by the hydrocracker reactor feed pump.

The feed mix is heated by heat exchange against reactor effluent in the feed/product interchanger. Compressed hydrogen gas, purified of residual carbon oxides, is mixed with the combined reactor effluent, cooled and fed to the cold separator. The product gas stream is compressed by the recycle gas compressor and split into four parts.

One part is routed to the Hydrotreater, while the second (majority) is heated up in the hydrocracker treat gas heater and mixed with the liquid feed. The third part of the gas is used to quench the reaction in the hydrocracker reactor as explained below and the fourth part is used to quench the reaction in the hydrotreater reactor.

The reaction mixture is quenched at the exit of the first catalyst bed by a controlled flow of quench gas in a series of proprietary mixing boxes. The cooled reaction mixture is then redistributed to the lower catalyst bed where further exothermic

conversion occurs. The reactor effluent is mixed with the effluents from the hydrotreater reactor and the mixture is progressively cooled and flashed in the hydrocracker hot product separator.

The vapor from the separator is mixed with fresh hydrogen gas, cooled further and flashed in the hydrocracker cold product separator. The resulting vapor is fed back to the recycle compressor as described earlier. A portion of the recycle gas is purged to fuel to remove light ends from the recycle circuit.

The separator bottom streams are fed to the treated naphtha recovery column via the hot and cold LP separators.

Treated Product Recovery Area

In the treated naphtha recovery column, the treated naphtha is distilled from the hydrocracker separator liquid. The naphtha leaving the top of the column is sent to the naphtha stabilizer where any associated light ends are stripped using MP steam via a reboiler. The stabilized naphtha is sent to storage and any stripped gas is fed to the fuel header.

The overheads from the treated naphtha recovery column are cooled and the condensed liquid is separated in the reflux drum. Uncondensed vapor is used as fuel gas.

Part of the bottoms from the naphtha recovery column is sent to the naphtha recovery column reboiler heater to provide reboil for the recovery process. This furnace is necessary, because insufficient diesel recovery would be obtained with a simple reduction in pressure. Additionally, the condensation temperature of the diesel in a very low pressure vacuum column would require chilled water to attain a sufficient low

temperature for condensation. The remainder of the bottoms is pumped to the diesel recovery column.

The column is equipped with two packed beds and is operated under vacuum maintained by the column's two-stage vacuum system. Diesel and refluxes are drawn from the total draw-off tray located below the top packed bed. The majority is returned to the top of the column as pumparound reflux and the rest is sent to storage as diesel product. A small portion of this product is recycled for use as backwash of the heavy wax.

The bottoms from the vacuum column are pumped as heavy recycle to be mixed with fresh feed. If required, a small slipstream is routed to the wax export cooler as purge and stored in a drum located on the upgrading section plot.

The hydrocarbon liquid produced by the vacuum system is sent to slop or returned to the feed stripper. The uncondensed gas is sent to flare or a special low pressure burner in the naphtha column reboil heater, as its pressure is insufficient for it to be routed to the normal fuel gas system. The oily water from the vacuum system is pumped to the effluent treatment unit.

Final fuel product quantities and properties for the simple-recycle FT design case are shown in the following tables:

Final FT Product Quantities

Product	**Short Tons Per Day (STPD)**	**Barrels Per Day (BPD)**
FT Naphtha	220	1,860
FT Diesel	1,120	8,200

FT Naphtha Properties

Property	FT Naphtha
Distillation (°F)	93
Kinematic Vscosity (centistokes @ 100°F)	0.45
Aromatics (vol %)	Approx. 2

FT Diesel Properties

Property	ASTM D-975	CARB Diesel	FT Diesel	ASTM Test
Specific Gravity	0.83-0.86		0.78	D-1298
Flash Point (°C)	52	54	54	D-93
Cetane Number	40	48	70	D-613
Cetane Index			72	D-976
Color			0	D-1500
Viscosity (centistokes @40°C)	1.9 - 4.1	2.0 — 4.1	2.5	D-445
Sulfur (wt ppm)	500	500	<1	D-2622
Aromatics (vol %)	<35	<10	<4	D-1319
Olefins (vol %)			<0.001	D-1319
Ash (wt %)			<0.001	D-482
Carbon Residue (wt %)		0.15	<0.05	D-524
Distillation (°F)				
IBP		340-420	340	
50%		470-560	530	
90%	540-640	550-610	640	

Steam and Power Section

FT tail gas and FT produced water/oxygenates are heated in the fuel gas heater prior to entering the gas turbine where electricity is generated. The exhaust from the gas turbine is sent to the gas turbine heat recovery steam generation (HRSG) unit where majority of the heat is recovered before the flue gas is vented to the atmosphere by:

- Generating superheated high pressure steam
- Superheating medium pressure steam from the FT synthesis unit
- Superheating low pressure steam from the syngas conditioning section

The superheated steams from the HRSG unit, together with superheated high pressure steam from offsite auxiliary boilers, are used to drive the steam alternator turbine to generate additional electricity.

The exhaust from the steam turbine is cooled in air coolers to condense the steam before it is routed to the water purification unit for polishing.

Medium pressure steam blowdown from the FT synthesis section and CO shift section are flashed in a boiler blowdown flash vessel. The vapor from the flash vessel is sent to the low pressure steam header and the liquid is routed to the water purification section of the plant.

Facilities and Utilities

Following are summary lists of facilities and utilities required to support the CTL plant.

Facilities

- Crude Storage/Transfer

- Crude storage tanks
- Slop/test tank

- Product Storage/Transfer
  - One naphtha product storage tank (30 day storage)
  - Two diesel product storage tanks (15 day storage)
  - Rail and road transfer facilities for CTL products
  - Road transfer facilities for sulfur products

- Water Purification
  - Water filtration plant
  - Water demineralization plant
  - Condensate polishing plant

- Auxiliary Boilers
  - Gas fired boilers (2 x 185,000 lb/h at 1680 psig and 932°F)
- Chiller Unit
  - Chiller unit for FT synthesis
- Tempered Water System
  - Closed circuit tempered water facilities
- Effluent Treatment
  - Plant effluent
  - Domestic waste
  - Storm water
- Flare System

- Flare drum
- Flare stack

Utilities

- Electricity
  - Emergency generator (5MW, diesel fueled)
  - Substation
- Raw Water System
  - Water well (or river) pumping system and supply pipeline
- Cooling Water
  - Evaporative cooling tower
- Plant/Utility Water
  - Separate tank and pumps to supply plant and utility water
- Nitrogen
  - Vaporization system to vaporize nitrogen supplied by ASU
  - Stand alone units to produce nitrogen backup
- Plant/Instrument Air
  - Four sets of units (one stand by)
- Fire Water
  - Tank, pump and fire fighting system

Overall Plant Performance

The following table summarizes the tentative inputs and outputs for the CTL project. These numbers are very preliminary ballpark estimates and are provided for discussion purposes only.

Plant Inputs	**Amount**
Lignite feed (STPD as received)	9,300
Oxygen from ASU (STPD)	4,000
Raw water (STPD)	720

Plant Outputs	**Amount**
FT diesel (BPD)	8,200
FT naphtha (BPD)	1,860
Net export power (MW)	12
Sulfur for sales (STPD)	54
Slag for sales/disposal (STPD)	600
Water disposal to evaporation pond (STPD)	180

Pilot Plant Testing

Pilot plant testing is critical to determine the parameters and optimal processes to be used in the design of the coal preparation, gasification, Fischer-Tropsch (FT) synthesis and product upgrading processes of the CTL plant.

Engineering Contractor

Engineering development will be done by process licensors for the gasification, Fischer Tropsch (FT) and product upgrading units and by a general engineering

contractor for the balance of the process equipment and for integration of the licensed process units.

The engineering deliverables from the general engineering contractor will consist of a process design package consisting of:

- Man-hour estimate, and cost estimate to +30%/-15% level
- Project execution plan for use in the next project phases
- Preliminary design basis memorandum for the next project phase
- Preliminary level II schedule including engineering and procurement milestones
- Preliminary review of operational synergies with neighboring facilities to project site and a list of proposed optimization studies
- Preliminary plot plan and site layout drawings
- Preliminary process flow diagrams
- Detailed heat and material balances
- Battery limits tables
- Preliminary equipment list
- Preliminary electrical single-line diagrams
- Preliminary list of project specifications

The Partners will engage the process unit licensors for the gasification, FT and product upgrading units. The engineering deliverables from these licensors will typically consist of "Schedule A" type design specifications consisting of:

- Process unit project specifications book including
- Process description

- Design basis memorandum for the process unit
- Basic engineering design data and process specifications
- Detailed heat and material balances and hydraulic data
- Process equipment list and mechanical specifications
- List and specification of utilities provided and required as part of the process unit operation
- Preliminary electrical single-line diagrams
- Preliminary plot plan for the process unit,
- Confirmed process unit battery limits capital cost estimate to a confidence level of +30%/-15%.
- Operating cost estimates and cost factors for the main process units (including applicable catalyst costs), catalyst change-out intervals, scheduled maintenance intervals, etc.

The Partners will engage other engineering or technical service contractors as needed to ensure that critical path environmental and regulatory actions, such as those required for the completion of the environmental impact assessment, are carried out in a timely and cost-efficient manner.

The project scope will be sub-divided into several process plants, allowing the licensor to engineer the individual licensed units as part of each licensor's contracted responsibility. The general engineering contractor will be charged with the responsibility of managing plant interfaces and ensuring that the design data, including that of the

selected process unit licensors is integrated and coordinated within the overall facility design.

Only activities critical to these objectives and critical to maintaining the project timeline will be carried out during this phase.

Approvals required after the FEED phase may include municipal development permit(s), approvals by railway administration (if required), etc, and will be applied for prior to financial closure of construction financing.

Engineering Design Specification and Project Finance

This phase of the project will proceed on the basis of the +30%/-15% estimate prepared in the first part of FEED, and will incorporate any commercial arrangements in place by then and reflect the status of all permit applications. During this phase the partners may hire engineers and consultants, if required, to support the regulatory applications, including presentations at project stakeholder meetings, hearings or other required activities to obtain regulatory approval.

It is expected that this second part of FEED effort will continue with the same general engineering contractor and process unit licensors as were engaged for the first part of FEED. The main engineering deliverable of this phase of the project will be the development of engineering design packages sufficient for the preparation of lump-sum design-build contracts to be executed during the detailed design and project implementation phase. These engineering packages will be sufficiently detailed but only to the minimum levels required for placing construction work packages and purchase

orders. Engineering activities will be continuously monitored to ensure that "over-engineering" (non-needed work) does not occur.

Requests for proposals for detailed engineering, procurement and construction of the various plants will be prepared, reviewed, and issued after the submission of environmental applications. The commercial elements of these proposals will likely be used to refine the current project cost estimate. The decision to award design-build contracts will not be made until an economic viability check of the project has been completed, and the necessary project financing is in place.

The Partners envision that with the completion of the FEED processes of permitting, pilot plant testing and gasification and liquefaction process design, and using the capital and operating cost estimates to project financial viability, that full plant construction financing will be obtained. After obtaining project financing, the Partners will engage an EPC firm and the detailed engineering, procurement and construction will begin.

Detailed Design and Project Implementation

This activity will proceed upon approval from the required regulatory authorities and when commercial arrangements are in place as required.

This phase of the project will use the process design packages, design basis memorandum, engineering design specifications, design build packages, project schedule and estimate, and the project execution plan developed in the prior phases.

An engineering, procurement and construction management (EPC) firm will be engaged. The general EPC contractor will assume the role of principal contractor in this

phase, and will take responsibility for overall site coordination, including scheduling and interface issues between the various site and supply contractors and the construction contractors. This EPC contractor will be responsible for completion of any open regulatory or permit applications for the plant that are still pending, and will lead all detailed engineering and procurement activities required for procurement of necessary equipment and for subcontracted services from this point onward.

Commissioning and Startup

- Put operating staff in place and train operators as required
- Review punch list and rectify deficiencies as warranted
- Ensure operations support organization in place
- Start up process units and confirm satisfactory operation
- Conduct process performance test

Project Closeout

- Submit as-built piping and instrumentation diagrams and other drawings as required
- Return to Headwaters all data books and proprietary documentation
- Perform project "post-mortem" and summarize lessons learned
- Close out project records

Mine Planning

While the FEED process and design for the CTL plant are progressing plans for the expansion of the Falkirk Mine will also be underway. The Falkirk Mining Company has been mining coal in the area since 1978 and supplying up to 8 million tons per year to the Great River Energy's Coal Creek Station. The initial phase (10,000 bpd) of the CTL plant will require an additional 3 million tons per year of Falkirk Mine lignite. If the CTL plant is expanded to its full capacity of 50,000 bpd then up to an additional 15 million tons per year of lignite would be required. The Partners will work with all applicable Federal, State and local agencies to complete permit and regulatory requirements for the mine expansion at the same time that they are working on the FEED process for the CTL plant construction.

The mine and plant site are located in the physiographic region of North Dakota known as the "Coteau Slope" and is dominated by landforms that are primarily glacial in origin. Glacial sediments or drift belonging to the Coleharbor Formation were deposited over the land comprising the permit area during the Wisconsin Age. The primary land use within the area is dominated by agriculture with 90-95 percent of the area used for farming or ranching. The remaining land uses include: fish and wildlife habitat (wetlands), industrial/commercial public, utilities, residential farmsteads, and county roads and section line trails. Mine expansion to the west may come in close proximity to the Missouri river flood plain and associated bluffs or breaks. These areas will need further environmental assessment as the mine expands. The Partners will be working with regulatory agencies and local public officials to lesson environmental concerns of the project as they arise.

Economic Significance

The positive impacts to the local, regional and state economies are numerous and will start with the preliminary FEED work and grow during the construction and operation of the CTL plant and mine expansion. The following chart (from data provided in Workforce Proposals provided by Job Service of North Dakota and the North Dakota Department of Commerce) shows the projected job creation and associated state income tax projection during the construction and operation phases for both the CTL plant and the mine expansion.

Job Creation

Project Phase	Year	Construction Plant	Full Time Plant	Full Time Mine	Total	State Income Tax Projection/Year
Phase 1	2009	2000			2000	$2,652,000
	2010	2000			2000	$2,652,000
	2011	2000	300	86	2386	$3,163,836
Phase 2	2012	1000	300	86	1386	$1,837,836
	2013	1000	400	196	1596	$2,116,296
Phase 3	2014	500	400	196	1096	$1,453,296
	2015	500	400	306	1206	$1,599,156
Phase 4	2016	500	400	306	1206	$1,599,156
	2017	500	500	421	1421	$1,884,246
Phase 5	2018	500	500	421	1421	$1,884,246
	2019	500	600	536	1636	$2,169,336
Full Operation Phase	2020 - 2045		600	536	1136	$1,506,336

As can be seen from the chart above, the employment from the CTL project during the construction phases would account for a yearly average of over $2 million in additional state income tax proceeds and over $1.5 million per year during full operation.

Using statistics (source Lignite Energy Council) of from 4 to 5 indirect jobs created for every direct job in the energy industry in North Dakota, the total number of jobs created increase significantly.

Another source of increased revenue to the state and local political subdivisions is from coal severance and conversion taxes. The chart below shows projections for increased revenue from these two sources from the project.

Project Phase	Year	Mine to CTL Tonnage	Coal Severance Tax/Year	Coal Conversion Tax/Year (estimated)	Total Tax/Year
Phase 1	2009				0
	2010				0
	2011	3,000,000	$1,185,000	$168,750	$1,353,750
Phase 2	2012	3,000,000	$1,185,000	$168,750	$1,353,750
	2013	6,000,000	$2,370,000	$337,500	$2,707,500
Phase 3	2014	6,000,000	$2,370,000	$337,500	$2,707,500
	2015	9,000,000	$3,555,000	$506,250	$4,061,250
Phase 4	2016	9,000,000	$3,555,000	$3,375,000	$6,930,000
	2017	12,000,000	$4,740,000	$4,500,000	$9,240,000
Phase 5	2018	12,000,000	$4,740,000	$4,500,000	$9,240,000
	2019	15,000,000	$5,925,000	$5,625,000	$11,550,000
Full Operation Phase	2020 - 2045	15,000,000	$5,925,000	$5,625,000	$11,550,000

Note: 85% exemption
in years 1 - 5

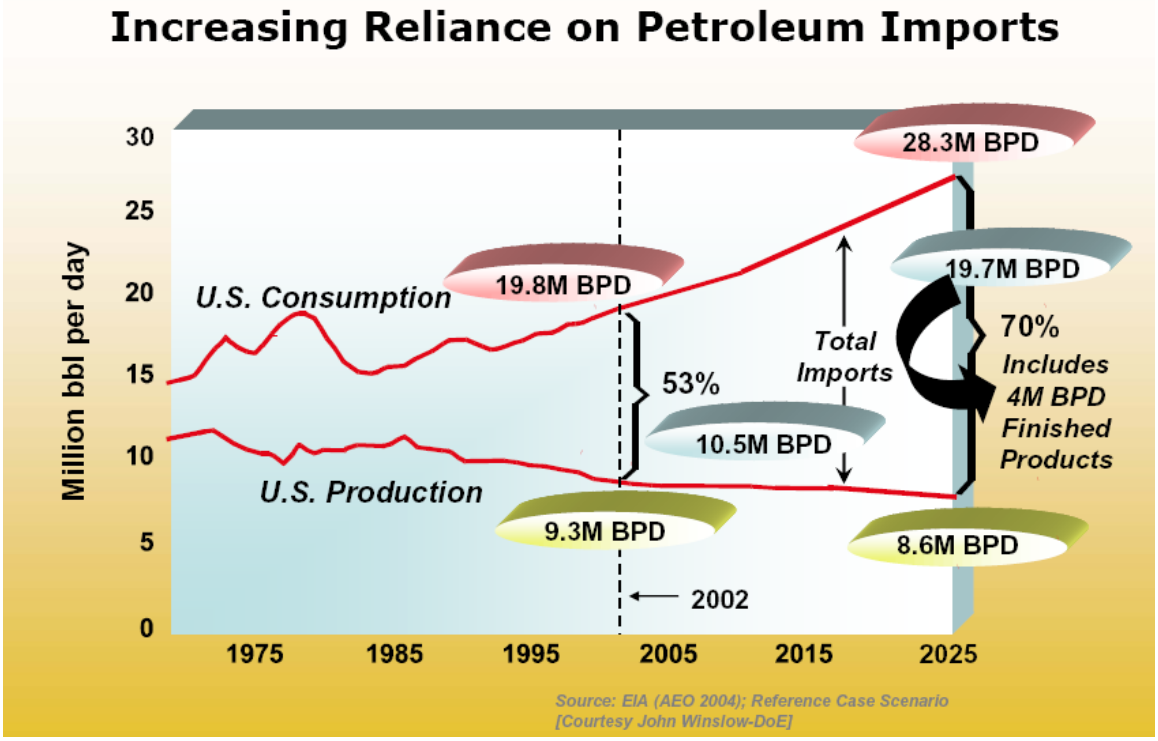
In addition to the above sources of revenue, there would be significant revenue increases to the State and local subdivisions from sales tax and property tax from the influx of the construction and full time employees.

For phase 1 of the CTL plant construction and mine expansion the construction and equipment procurement would generate almost $1 billion in economic activity in the region. As each additional phase is constructed another $500 million of spending would generate increased business volume in the State. Overall the project partners believe the

economic potential of the CTL project will have a significant positive effect on North Dakota's economic health.

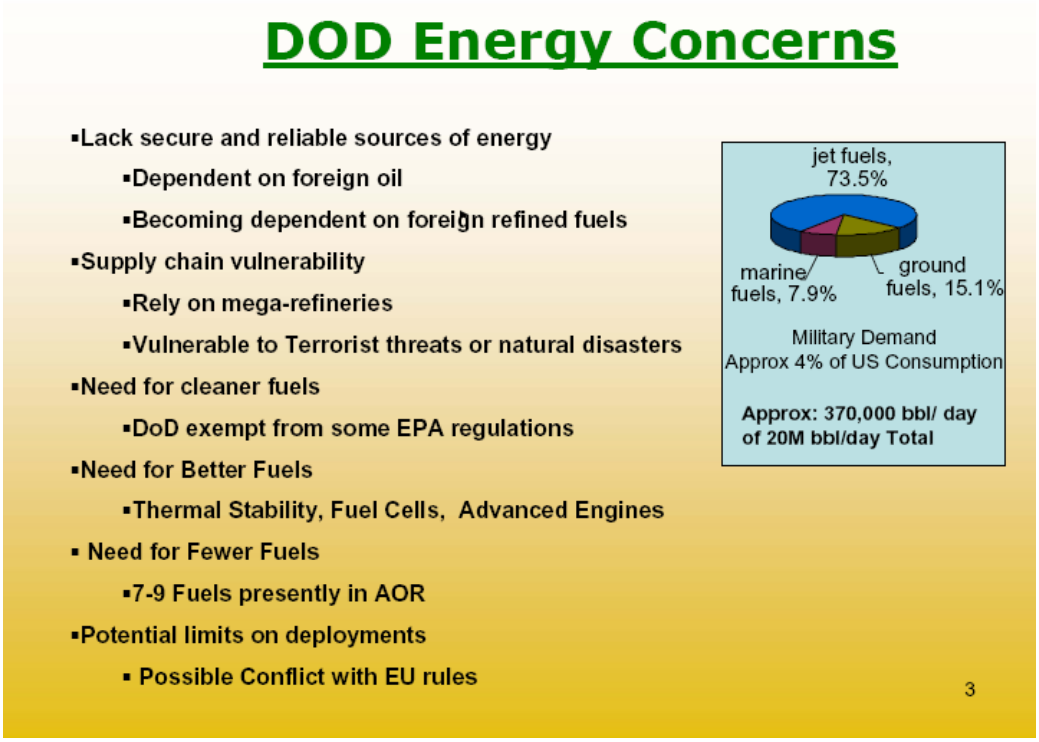
National Security Significance

The ND CTL project could be a vital link in solving the nation's energy problems. As can be seen in the chart below, which is from a Department of Defense presentation, the U.S. reliance on foreign oil imports is projected to increase significantly over the next two decades.



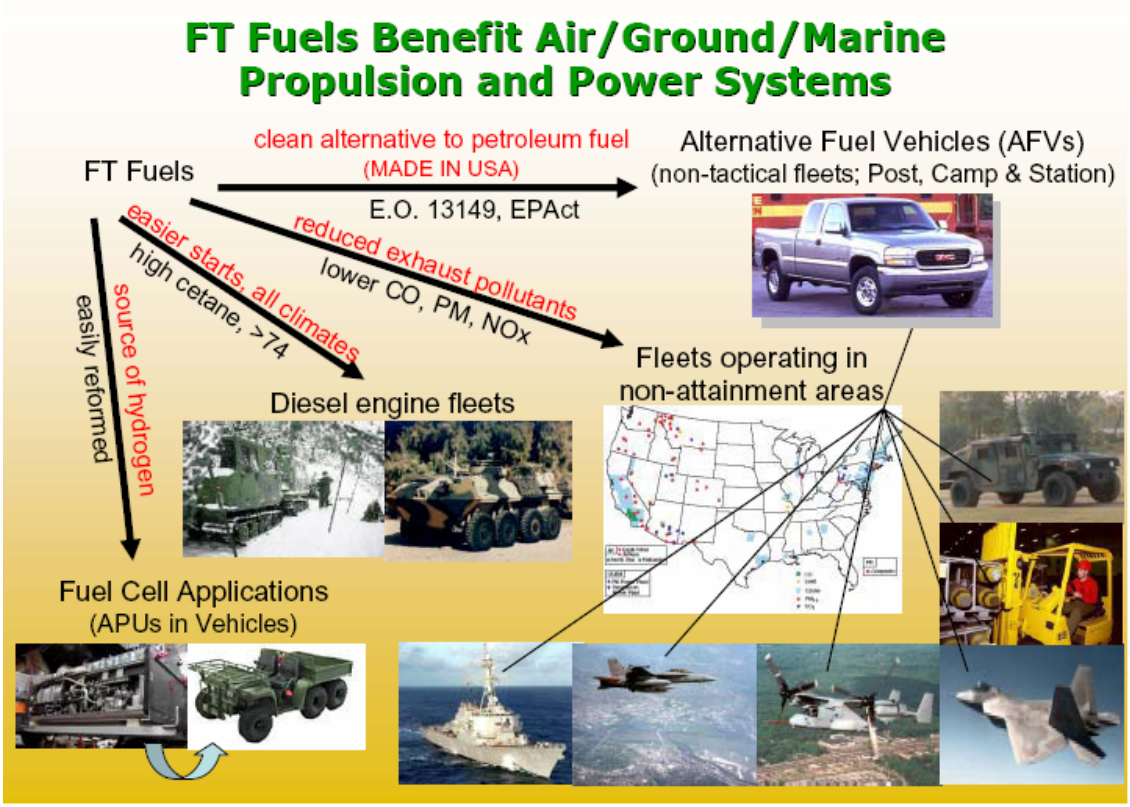
The Department of Defense (DOD) and Department of Energy (DOE) are currently working on initiatives to secure the U. S. energy supplies for the future and to make the nation less reliant on foreign oil imports. The DOD as shown in their

presentation is further concerned about securing a reliable source of fuel for emergency situations as discussed in the DOD chart shown below:



Along with being a reliable domestic source of fuels the ND CTL project would be located in a region which could be secured from terrorists and natural disaster threats.

The DOD further points out that Fischer-Tropsch fuels are clean burning and because of their high cetane value are quite easily adapted for use in a variety of military aircraft, vessels and vehicles as shown in the next chart.



These fuel characteristics, the center of nation location of the project and its close proximity to major military installations with fuel transport operations gives the ND CTL Project advantages as a strategic link in the U. S. energy plan.

For North Dakota the Project provides a means of developing its vast lignite reserves without being hindered by transmission capacity concerns and may also provide additional military justification for the State's two air force bases.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

STANDARDS OF SUCCESS

The Partners will consider the FEED phase of the project a success when the necessary environmental permits and preparation of capital and operating cost estimates are completed sufficient to obtain financing for the construction phase of the project. Future standards of success will be met at time of construction financing closure, groundbreaking, construction completion and plant commissioning.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

BACKGROUND

The North Dakota Coal-to-Liquids (ND CTL) Project when constructed will utilize proven gasification and liquefaction technologies to convert North Dakota lignite into high quality, low emission transportation fuels, electricity and other co-products. There has been extensive research done over the past 200 years in the area of gasification and liquefaction by private companies, Universities and government agencies to indicate that this technology is technically viable and commercially feasible. There are several potential processes to gasify lignite including, but not limited to, Shell, KBR, Lurgi, GTI and Future Energy. Current and future coal testing and pilot plant testing during the FEED process will determine which process will best fit North Dakota lignite for a CTL process.

The Fischer –Tropsch (FT) gas-to-liquids technology was invented in Germany in 1923 by Dr. Franz Fischer and Dr. Hans Tropsch and was used during World War II by Germany to produce over 600,000 barrels per year of liquid fuel from coal. A 7,000 bpd FT plant based on natural gas was built in Texas by HRI, a predecessor of Headwaters Technology Innovations Group (HTI), and operated from 1950 to 1953. HTI has been working with other companies over the past few years to develop iron-based catalysts which are ideally suited for processing coal-derived syngas into ultra-clean liquid fuels. HTI also has patents covering catalyst manufacturing, slurry phase reactor design and

operation, production of FT liquids for fuel and chemical feedstocks and co-production of ammonia and FT liquids.

Great River Energy's experience in the generation, transmission and marketing of energy in the upper Midwest, Headwater's experience with gasification and liquefaction technology and marketing coal related products, North American Coal's 90 years of experience in coal mining and project development and Falkirk's experience in effectively mining lignite coal in McLean County will all contribute to success of this project.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

QUALIFICATIONS

The North Dakota Coal-to-Liquids (ND CTL) Project Partners (Partners) are a diverse group of companies within the energy industry that are individually leaders within their respective areas. Each company brings a unique corporate experience and knowledgeable staff of individuals that will contribute to the overall success of the project. Below are profiles of each of the project partners:

Great River Energy

Great River Energy (GRE), located in Elk River, Minnesota, is the second largest electric utility in Minnesota, based on generating capacity, and the fourth largest generation and transmission (G&T) cooperative in the U.S. in terms of assets. GRE provides wholesale electric service to 28 distribution cooperatives in Minnesota and Wisconsin. Those member cooperatives distribute electricity to approximately 590,000 homes, businesses and farms.

As a G&T, Great River Energy both generates electricity at power plants and transmits that electricity across high voltage transmission lines. Backed by $1.7 billion in assets, a diverse and talented workforce and a board of directors focused on meeting customer needs, Great River Energy is poised to compete in the energy-services marketplace of tomorrow.

From its origins as an electric cooperative, Great River Energy provides its member systems and other customers with an ever-growing array of energy solutions. GRE has one of the best teams of employees in the energy business and a culture that continues to evolve, becoming quicker, more open and more entrepreneurial.

Great River Energy's 2,500-megawatt generation system comprises an effective mix of base load and peaking power plants, including coal, refuse-derived fuel, natural gas and oil plants, as well as wind generation.

Great River Energy's electric transmission system includes more than 4,500 miles of transmission line, including the high voltage direct current, or HVDC, transmission line that runs from Coal Creek Station to Minnesota. Great River Energy also owns or partially owns more than 100 transmission substations. Great River Energy and its member cooperatives are not-for-profit companies owned by the consumers they serve.

Great River Energy's experience in the energy generation, transmission and marketing field provides invaluable knowledge to the ND CTL Project.

Headwaters Incorporated

Headwaters is a technology-based energy company with approximately 5,000 employees and a market capitalization of $1.6 billion. It operates in 35 states and has annual revenues exceeding $1 billion. Whether it is improving processes that generate or consume energy or improving materials that comprise our built environment, Headwaters is committed to sustainable business practices and sustainable products. With leading

positions in each of their markets, Headwaters operating companies discover and capitalize on opportunities for making more efficient use of our world's natural resources – especially fossil fuels. Many opportunities can be found on the coal value chain. **Headwaters Energy Services** is the largest provider of technology and chemical reagents to the coal-based synthetic fuels industry. The company is using its engineered fuels expertise to develop new opportunities in the burgeoning clean coal marketplace. **Headwaters Resources** is America's largest manager and marketer of coal combustion products, including fly ash. Utilization of these materials improves performance of building products while creating significant environmental benefits. **Headwaters Construction Materials** (HCM) is a market leader in designing, manufacturing and marketing architectural stone veneer under the Eldorado Stone brand and also holds regional market leadership positions in manufacturing and marketing concrete blocks and brick, mortar and stucco. HCM also developed innovative FlexCrete aerated concrete. **Headwaters Technology Innovations Group** continues to develop and deploy a range of breakthrough technologies that improve natural resource utilization, including heavy oil upgrading, coal liquefaction and nanocatalyst applications.

Headwaters has proprietary technology and expertise in both direct and indirect coal liquefaction technology. The direct coal liquefaction technology is the result of over $3.6 billion of private and government investment over a 25-year period from 1975 to 1999. In 2002, Headwaters licensed the technology to Shenhua Group, the largest coal company in China, for the first line (17,000 bpd) of a 50,000 bpd CTL plant in Inner Mongolia. The plant is expected to startup in October 2007.

The predecessor of Headwaters Technology Innovation Group, built the first high-temperature Fischer-Tropsch synthesis plant in Brownsville, Texas in 1950. The plant operated until the mid-1950's when oil was discovered in the Middle East and caused the price of oil to drop. In 1996, the company developed a new catalyst for FT synthesis. In 2004, the company formed a joint venture with Rentech, Inc. to further develop indirect coal liquefaction. In 2005, Headwaters licensed UK RACE Investment Limited to build an indirect and direct coal liquefaction plant in China. The relationship with Rentech was dissolved in 2006, however, Headwaters continues to develop direct and indirect coal liquefaction projects around the world. The company is supplying project development support for projects in China, India, the Philippines, Indonesia, Mongolia, Australia and the United States.

These projects and others make Headwaters uniquely qualified as a partner in the ND CTL project. Although Headwaters has its own proprietary technology, it maintains that it is a project developer first and a technology developer second. The best technology will be selected for each project regardless of whether or not Headwaters proprietary technology is included.

The North American Coal Corporation

The North American Coal Corporation is the nation's largest miner of lignite and the 7th largest coal producer nationwide. It operates six lignite mines in four states producing almost 35 million tons of lignite annually. It also operates several dragline operations in Florida that produce over 25 million cubic yards of limerock.

Ensuring employee safety is the number-one priority at each of North American's mines which have consistently maintained a lost-time accident rate well below the national average. North American Coal believes that its commitment to safety, strong employee relations and technology innovation improves productivity thereby reducing costs to its customers. In addition North American has a long history of successful reclamation and commitment to the environment.

North American Coal's parent company NACCO Industries, Inc. has annual revenues of over $3.1 billion. In addition to North American Coal other NACCO Industries subsidiaries include NACCO Materials Handling Group – manufacturer of Yale and Hyster forklifts, Hamilton Beach/Proctor Silex – a leading manufacturer of housewares and Kitchen Collection – a leading retailer of kitchenware.

North American's position as the largest lignite producer in the US and its experience in development of coal industry projects makes it an ideal partner for the ND CTL project.

The Falkirk Mining Company

The Falkirk Mining Company was incorporated in 1974 as a wholly owned subsidiary of the The North American Coal Corporation for the purpose of holding coal reserves and designing, constructing and operating a surface mine near Underwood, North Dakota. A 35-year Coal Sales Agreement was executed between Falkirk and the Cooperative and United Power Associations of Minnesota (currently GRE) to supply up to seven million tons of lignite annually to an 1,100 megawatt electric generating station

owned and operated by the Cooperatives. Construction of the mine facility commenced in 1975 with the building of access and haulage roads, lignite crushing facilities, power distribution , fuel systems, and office, shop and warehouse facilities. Lignite deliveries to the Coal Creek Station (CCS) began on October 27, 1978. The Coal Sales Agreement was restated in the year 2000 and now includes reserves in the Riverdale Field and an extension of the agreement to March, 2020.

Falkirk has been mining coal in McLean County, North Dakota for almost 30 years and is uniquely experienced with the geology, coal quality, reclamation, environmental factors and social economic factors in the production of lignite fuel for the proposed project. Falkirk has a very positive relationship and excellent communications with GRE and CCS. They have worked together on coal flow, coal quality, clean coal technology and plant emissions.

Principal Investigator Experience and Qualifications

James Lepinski is a Vice President of Headwaters Incorporated. He is responsible for the acquisition and development of new technologies and business opportunities and played a key role in the acquisition of Hydrocarbon Technologies Inc. (HTI) by Headwaters in 2001. Since that time he has been actively involved in developing large coal-to-liquids projects. Prior to joining Headwaters in 1998, Mr. Lepinski worked 25 years in the iron and steel industry, including four years in Indonesia as technical director for an integrated steel mill project. He is co-inventor of a coal-based iron making process currently used in Japan and the

United States and graduated with honors from Michigan Technological University in 1973 with a degree in Geology and minor in Mineral Beneficiation.

Other Participants

Sam Tam is the Director of Technology for Headwaters, Inc. His primary responsibility is to manage the US coal-to-liquid business and project development activities. Prior to joining Headwaters, he held various positions in research and development, central engineering, business development, and energy consulting in Dow Chemical Company, BP, Bechtel, and Nexant. He has over thirty-years experience in alternate energy, petrochemicals, and refining. His fields of expertise include environmental and technical processes related to the production of power and liquid fuels from alternative energy sources such as coal and natural gas, refining and end-use of coal liquids, advanced Fischer-Tropsch (F-T) technology, integrated coal gasification combined cycle (IGCC)/methanol/liquid hydrogen co-production, chemicals from syngas, life cycle analysis and carbon management.

Charlie Bullinger has been an employee at Great River Energy's Coal Creek Station for 29 years. Before that he worked for the Department of Energy testing Scrubbers. His positions at Coal Creek included Start-up and Systems engineering, Performance Engineering, Planning, and the last twelve years has served as Engineering Services Leader. Responsibilities included managing 9 to 12 people and an annual Construction Budget that ranged between $5M and $50M. He is

also Project Manager for the DOE/NETL Clean Coal Power Initiative project, Lignite Fuel Enhancement, which is successfully completing its' Phase 1 Prototype testing. He received his bachelor of science in Mechanical Engineering from North Dakota State University and is a registered professional engineer in North Dakota and Minnesota.

Carroll Dewing has been an employee of Falkirk for 27 years and has held positions in engineering, environmental, production and maintenance departments. He has experience in permitting, mining methods, equipment selection and maintenance, production, safety, employee requirements and mine cost evaluations. He has a BS in Civil Engineering from North Dakota State University and will be the lead participant in mine requirements for the Project.

John Weeda is the Plant Manager of the Coal Creek Station for Great River Energy. He has served in that role since 1989. Prior to 1989 he served in several engineering and management roles with the owners of the station. His experience includes handling, drying and use of lignite for steam and power production. During his tenure at Coal Creek Station a number of plant efficiency improvements have been implemented and development of byproducts markets for fly ash and waste heat have been developed. John has also been a supporter of research on processes for improving environmental control and in moving successful projects into commercial application. He has a Bachelor of Science degree in Mechanical Engineering from the University of North Dakota.

Greg Ridderbusch is the Vice President, Business Development and Strategy for Great River Energy. Mr. Ridderbusch has 26 years of progressively responsible experience in civil engineering, process engineering, product development, business planning, strategic planning, and general corporate management. He has managed product development budgets exceeding $40 million annually, and has worked in launching businesses ranging from energy marketing, customer services, ISP, and others for his clients prior to joining GRE. His technical experience includes fluidized and raining bed industrial pre-heaters, low emission burners, industrial co-firing, and others. He has served GRE as an employee since 2005 and provides leadership for GRE business development initiatives. He is a graduate of the United States Military Academy at West Point, has an MSME from the Georgia Institute of Technology, and an MBA from the Kellogg Graduate School of Management at Northwestern University.

Rick Lancaster is Vice President, Generation, at Great River Energy, a position he has held since July 2005. He is responsible for operation and maintenance of GRE's 2500-MW fleet of power plants, and construction of new plants. His previous position was Vice President, Corporate Services, which included responsibility for resource planning, member service, administrative services, government affairs, communications, and environmental services. He has worked at Great River Energy or one of its predecessor organizations for almost thirteen years. Before working for GRE, he was Executive Secretary of the Minnesota Public Utilities Commission. Rick has a Bachelor of Arts degree in economics and

history from Grinnell College in Grinnell, Iowa, and a master of public policy degree from the University of Michigan.

Dennis James is Staff Geologist at Falkirk and has worked in the coal industry for 29 years, the last 25 years has been with Falkirk and affiliated companies of NAC. He has experience in all phases of coal geology and chemistry. His technical background has allowed him to work with many of NAC's customers to help them optimize the use of coal in their boilers and gasifiers. He is a co-inventor of the coal drying process currently being demonstrated at Coal Creek Station. He has a Bachelor of Science majoring in Geology, a Master of Science specializing in Coal Geochemistry, a Master of Management, and a Master of Business Administration.

Bill Thompson is Business Manager for Falkirk and has worked at Falkirk and NAC affiliates for 29 years. He has a BS degree in Business Administration and a Masters in Management degree. He has experience in costing, accounting, leasing and economic evaluation and will assist the lead participant in analyzing mine cost and economic models.

Rich Weinstein is a project Development Manager for Falkirk and has worked in the mining industry for 28 years, the last 23 years has been with Falkirk. Rich has broad experience in mine permitting, mine development, equipment selection, supervision, operations, and economic evaluations and most recently in the fields of coal research and development, and coal beneficiation. Rich was instrumental in assisting Great River Energy in inventing and developing coal drying

technology. He is currently participating in task forces to address mercury removal technology and IGCC Development for the lignite industry. Rich has been key in developing long range mining plans that meet the unique needs of multiple customers. He has an Associate Degree in civil technology and a Bachelor Degree in Mining Engineering.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

VALUE to NORTH DAKOTA

The North Dakota Coal-to-Liquids (ND CTL) Project Partners (Partners) anticipate utilizing the FEED results upon their completion to secure full plant construction financing. These results are required for final design parameters, to secure all relevant permits, and to provide detailed project economics necessary for construction financing. The Partners believe that this FEED project will show that the ND CTL Project is viable, has sound economics and is an efficient and strategic use of North Dakota's vast lignite reserves.

When the FEED process is completed and construction financing is secured, the Partners will contract immediately for engineering, procurement and construction services. It is hoped that plant construction can be completed within three years from financial closure. It is planned that the first unit of the CTL plant would start taking coal shipments in 2011 at the rate of approximately 3,000,000 tons per year. As market conditions dictate, it is envisioned that the plant may be expanded to 50,000 barrels per day, consuming up to 15,000,000 tons of lignite per year. Life of the plant is projected to be at least 30 years for a total consumption of almost 500,000,000 tons of ND lignite.

It is projected that the first phase of this project will directly employ over 350 people at the plant and minesite with good paying jobs. Fully expanded, the CTL plant and mine will provide good, skilled job opportunities for over 1000 North Dakotans.

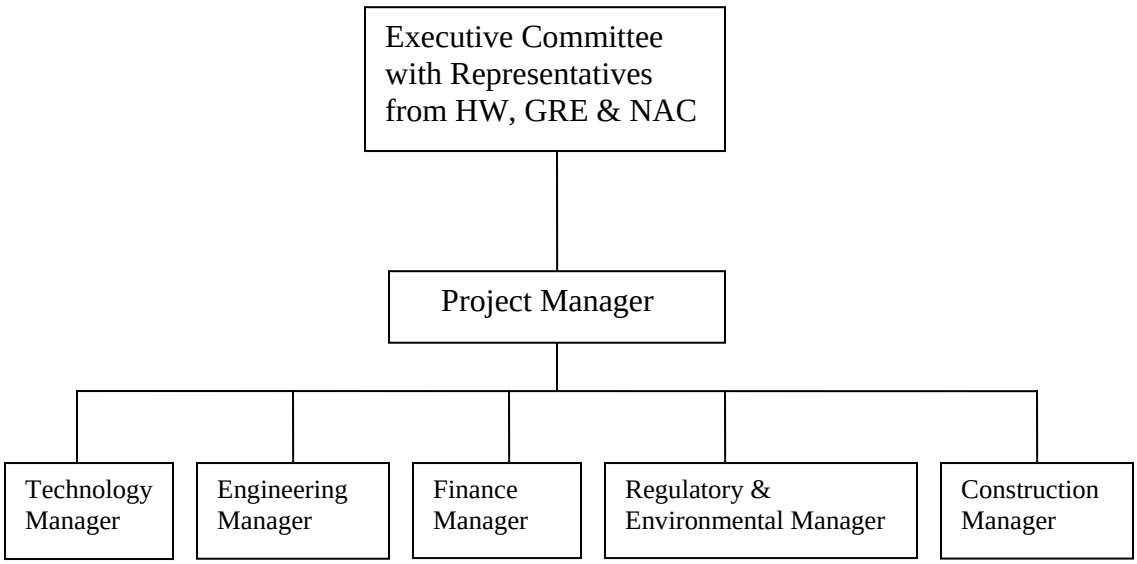
Based on employment figures from the ND Department of Commerce there will be over 6000 indirect jobs created with the completion of this project.

The Partners believe that this project satisfies the priorities established in North Dakota Century Code section 54-17.5-03 by creating a large number of new jobs and utilizing a large quantity of North Dakota lignite with a high probability of near term commercialization. In addition, completion of this project and the demonstration of the economic viability of utilizing ND lignite in a liquids plant could be a catalyst in bringing other similar projects to the State.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

Management

The North Dakota Coal-to-Liquids (ND CTL) Project Partners (Partners) will be working together to ensure the success of the FEED process and to keep it on schedule. The project management will consist of an Executive Committee of three individuals with representatives one each from Great River Energy (GRE), North American Coal (NAC) and Headwaters (HW). HW is the lead partner on the ND CTL Project and will provide a Project Manager who will have overall authority for the project subject to the Executive Committee for certain decisions. The Project Manager will have a team of individuals on staff that will be responsible for the various aspects of the project as shown in the organizational chart below:



The individual managers will be responsible for their part of the project and will report to the Project Manager. These Managers will be responsible for not only coordinating efforts of their staffs, but also administering contracts for permit preparation, engineering design, pilot plant testing and other outside consulting work during the FEED process.

GRE will also have staff working on coal handling, coal preparation and other utility issues where there will be interface between the existing Coal Creek Station and the CTL plant. John Weeda, Plant Manager, will have overall responsibility for this work at GRE.

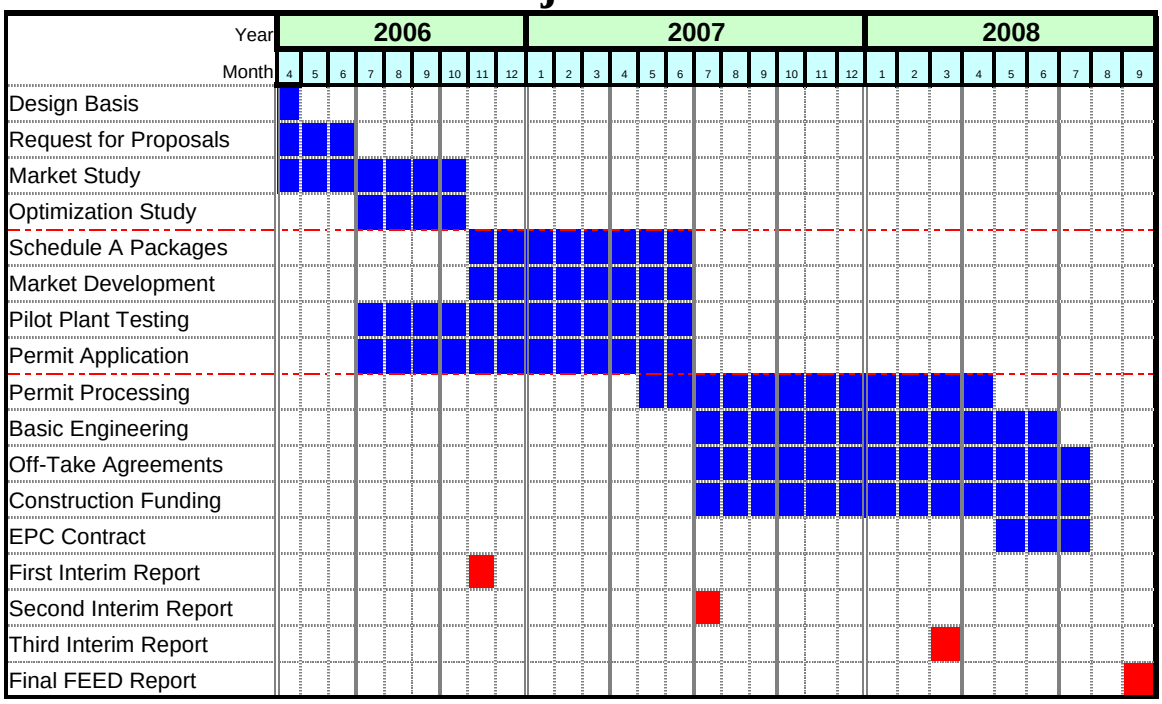
The Falkirk Mining Company (Falkirk) staff will be responsible for all aspects of the mine expansion related to environmental assessment, permitting, mine planning and other mine development issues related to the ND CTL project. Overall responsibility for this will be with Carroll Dewing, Operations Manager – Technical Group.

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

TIMETABLE

Coal-to-Liquids Plant
McLean County, North Dakota

FEED Project Timetable



Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

BUDGET

As shown below the total budget for the FEED phase of the project is $50 million. The Partners anticipate that, along with $10 million from Lignite Vision 21 grant funds and $10 million from Partner matching funds, the remaining $30 million will come from the Department of Energy (DOE), the Department of Defense (DOD) or other Federal sources. The Partners and others interested in CTL projects are actively pursuing Federal legislation and appropriation action to facilitate development of the CTL industry in the United States to help achieve national energy security. As currently budgeted none of the grant funds would be required for salaries of any of the project Partner's staff since the Partners propose to pay all of their own staff salaries and contribute them to the project as in-kind matching funds. The majority of the $10 million grant monies will be used to fund contracts with third parties for engineering, testing and permit work.

The Partners plan to proceed with the FEED process when sufficient funding is in place providing the Partners are confident that all FEED funds will be secured. The initial decision point will require the expenditure of approximately $2.4 million for initial engineering and marketing studies and will occur about 7 months into the process. To get to the next decision point will require the expenditure of an additional $35.1 million and will occur 16 months into the FEED study.

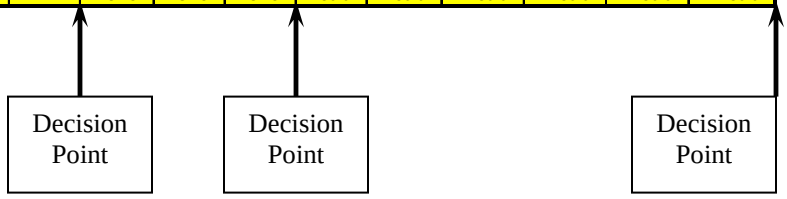
The Lignite Vision 21 funding request is essential to keep the North Dakota Coal-to-Liquids Project at the forefront of several other similar proposed projects in other

states. It is anticipated that only a few projects will receive Federal financial backing, and these will most likely be those that complete their FEED studies the earliest. Failure to obtain these grant monies may not end the Project, but most certainly will delay its start, which could lessen its chance of receiving Federal financial support. In addition, currently EPC contractors are very busy and only a limited number of these proposed projects will be able to acquire the necessary services of a qualified contractor.

FEED Project Cash Flow

($ Millions)

Year	2006			2007				2008			Total
Quarter	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	Cost
Project Office Design Basis	0.1										0.1
Project Office Request for Proposals	0.1										0.1
Project Office Market Study	0.3	0.2									0.5
Project Office Optimization Study		0.2	0.1								0.3
Project Office Market Development			0.1	0.1	0.1						0.3
Project Office Schedule A & Permitting			0.2	0.3	0.3						0.8
Project Office Basic Engineering						0.3	0.4	0.4	0.4	0.1	1.6
Project Office Off-Take Agreements						0.1	0.1	0.1	0.1	0.1	0.5
Project Office Construction Funding						0.1	0.1	0.1	0.1	0.1	0.5
Project Office EPC Contract									0.2	0.1	0.3
Project Office Subtotal	**0.5**	**0.4**	**0.4**	**0.4**	**0.4**	**0.5**	**0.6**	**0.6**	**0.8**	**0.4**	**5.0**
Permit Application		0.4	0.8	1.0	1.0						3.2
Permit Processing						0.2	0.2	0.2	0.2		0.8
Permitting Subtotal	**0.0**	**0.4**	**0.8**	**1.0**	**1.0**	**0.2**	**0.2**	**0.2**	**0.2**	**0.0**	**4.0**
Pilot Plant Testing Coal Gasification		0.5									0.5
Pilot Plant Testing FT Synthesis			1.5	3.0	1.0						5.5
Pilot Plant Testing FT Product Upgrading					1.0						1.0
Pilot Plant Testing Subtotal	**0.0**	**0.5**	**1.5**	**3.0**	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**7.0**
Engineering Contractor Request for Proposal	0.2										0.2
Engineering Contractor Optimization Study		0.4									0.4
Engineering Contractor Schedule A & Permitting			0.2	0.2	0.2						0.6
Engineering Contractor Basic Engineering						3.5	3.5	3.5	3.3		13.8
Engineering Contractor Subtotal	**0.2**	**0.4**	**0.2**	**0.2**	**0.2**	**3.5**	**3.5**	**3.5**	**3.3**	**0.0**	**15.0**
Schedule A Package Coal Gasification			2.0	2.0	2.0						6.0
Schedule A Package FT Synthesis			1.0	1.0	1.0						3.0
Schedule A Package FT Prod. Upgrading			0.5	0.5	0.5						1.5
Schedule A Package Other Units			0.5	0.5	0.5						1.5
Schedule A Package Subtotal	**0.0**	**0.0**	**4.0**	**4.0**	**4.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**12.0**
Initial Royalties Coal Gasification			3.0								3.0
Initial Royalties FT Synthesis			1.5								1.5
Initial Royalties FT Product Upgrading			1.5								1.5
Initial Royaties Other Units			1.0								1.0
Initial Royalties Subtotal	**0.0**	**0.0**	**7.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**7.0**
Total Cash Flow	**0.7**	**1.7**	**13.9**	**8.6**	**7.6**	**4.2**	**4.3**	**4.3**	**4.3**	**0.4**	**50.0**
Cummulative Cash Flow	**0.7**	**2.4**	**16.3**	**24.9**	**32.5**	**36.7**	**41.0**	**45.3**	**49.6**	**50.0**	**50.0**
Cash Flow Commitment*	**2.4**	**0.0**	**35.1**	**0.0**	**0.0**	**12.5**	**0.0**	**0.0**	**0.0**	**0.0**	**50.0**
Cummulative Cash Flow Commitment	**2.4**	**2.4**	**37.5**	**37.5**	**37.5**	**50.0**	**50.0**	**50.0**	**50.0**	**50.0**	**50.0**



Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

MATCHING FUNDS

At this time the Partners anticipate matching the funds provided by the NDIC Lignite Vision 21 Grant with a combination of dedication of staff time, resources and associated costs to this project and through committal of cash outlays to the project. Projected staff costs and cash outlays to match the grant are as shown below.

NDIC Lignite Vision 21 Grant $10,000,000

	Staff/Resource	**Cash**	**Total**
Project Partner Total	**$3,100,000**	**$6,900,000**	**$10,000,000**

HEADWATERS
INCORPORATED

April 1, 2006

Ms. Karlene Fine
Executive Director & Secretary
Industrial Commission of North Dakota
600 East Boulevard Avenue
State Capitol, 10th Floor
Bismarck, ND 58505-0310

RE: Tax Affidavit Letter, North Dakota Lignite Research Program Proposal
"Lignite Vision 21 Project" Coal to Liquids Plant in McLean County, ND
By Headwaters Incorporated, Great River Energy, The North American Coal Corporation & The Falkirk Mining Company

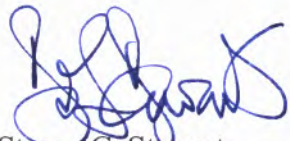
Dear Ms. Fine,

Headwaters Incorporated does not have any outstanding tax liens or liabilities with the State of North Dakota or any of its political subdivisions, and is current with all Federal and State tax reporting agencies.

If you have any questions, please contact the undersigned at our South Jordan, UT headquarters.

Sincerely,

Headwaters Incorporated



Steven G. Stewart
Treasurer

GREAT RIVER
ENERGY®

17845 East Highway 10 • P.O. Box 800 • Elk River, Minnesota 55330-0800 • 763-441-3121 • Fax 763-241-2366

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By Headwaters Incorporated, Great River Energy, The North American Coal Corporation & The Falkirk Mining Company

Dear Ms. Fine,

Great River Energy does not have any outstanding tax liens or liabilities with the State of North Dakota or any of its political subdivisions, and is current with all Federal and State tax reporting agencies.

If you have any questions, please contact the undersigned at our Elk River, MN headquarters.

Sincerely,

GREAT RIVER ENERGY

Larry L. Schmid
Vice President and Chief Financial Officer

NORTH AMERICAN COAL CORPORATION

April 1, 2006

Ms. Karlene Fine
Executive Director & Secretary
Industrial Commission of North Dakota
600 East Boulevard Avenue
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By Headwaters Incorporated, Great River Energy, The North American Coal Corporation & The Falkirk Mining Company

Dear Ms. Fine,

The North American Coal Corporation does not have any outstanding tax liens or liabilities with the State of North Dakota or any of its political subdivisions, and is current with all Federal and State tax reporting agencies.

If you have any questions, please contact the undersigned at our Dallas headquarters.

Sincerely,

The North American Coal Corporation

Bob D. Carlton
Vice President Financial Services & Controller

THE FALKIRK MINING COMPANY

A SUBSIDIARY OF THE NORTH AMERICAN COAL CORPORATION

FALKIRK MINE
2801 1st St. SW
Underwood, ND 58576-1087
(701) 442-5751 • Fax (701) 250-2473

April 1, 2006

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Executive Director & Secretary
Industrial Commission of North Dakota
600 East Boulevard Avenue
State Capitol, 10th Floor
Bismarck, ND 58505-0310

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By Headwaters Incorporated, Great River Energy, The North American Coal Corporation
& The Falkirk Mining Company

Dear Ms. Fine,

The Falkirk Mining Company does not have any outstanding tax liens or liabilities with the State of North Dakota or any of its political subdivisions, and is current with all Federal and State tax reporting agencies.

If you have any questions, please contact the undersigned or Bob D. Carlton – Vice President of Financial Services, and Controller, of The North American Coal Corporation in Dallas, Texas.

Sincerely,

THE FALKIRK MINING COMPANY

William C Thompson

William C. Thompson
Business Manager

Lignite Vision 21 Project
Coal-to-Liquids Plant
McLean County, North Dakota

CONFIDENTIAL INFORMATION

The North Dakota Coal-to-Liquids Project Partners do not believe that any of the information submitted with this application needs to be handled as confidential by the NDIC; however some of the results of the FEED studies will need to be regarded as confidential. These include both technical information which might be of a proprietary nature and certain economic results and models. The Partners will address each item that they want to be kept confidential in the interim and final reports as they are submitted to the NDIC.