

Lignite Research Program- Grant Round 78- Application Summaries

Application Number	Application Title	Applicant	Project Duration	Summary of Project	Funding Requested	Total Project Cost
LRC-78-A	Managing Slag Flow Behavior in Combustion and Gasification Systems	Microbeam Technologies, Inc.	2 Years	To improve the prediction and management of slag formation and flow in high-temperature combustion and gasification systems using advanced computational fluid dynamics (CFD) modeling. By integrating fuel chemistry, ash behavior, and slag properties, the research will help optimize system performance, reduce operational issues such as fouling and refractory wear, and improve efficiency in coal and gasification facilities.	\$245,065	\$785,065
LRC-78-B	Demonstration of Pilot-Scale Hydrogen and CO2 Separation Membrane Technology on Lignite-Derived Syngas	Energy & Environmental Research Center (EERC)	21 Months	To demonstrate advanced membrane technology for separating hydrogen and carbon dioxide from coal-derived syngas produced from lignite and Power River Basin coal. Using pilot-scale testing and warm-gas cleanup processes, the research aims to develop cost-effective hydrogen production and carbon capture technologies that support low-carbon power generation and industrial applications.	\$225,000	\$2,039,608
LRC-78-C	Annual Lignite Energy Council Education Seminar-Energy, Economics, and Environment	Lignite Energy Council	1 Year	To support the annual Lignite Energy Council Teacher Seminar, which educates teachers and administrators about the lignite industry, its economic impact, and energy-related career opportunities. Through facility tours, presentations, and classroom resources, the program promotes workforce development, public awareness, and future interest in North Dakota's energy industry while supporting the creation of new educational materials and program expansions.	\$80,000	\$160,000