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## NDIC Website One-page Summary

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**Project:**       **FY20-XC-222**

**Title:**           Mitigation of Alkali Promoted Ash Deposition and Emissions from Coal Combustion

**Submitted By:**    Barr Engineering

**PM/PI:**           Nicole Nguyen

4300 MarketPointe Drive, Suite 200  
Minneapolis, MN 55435  
952-832-2600

**Purpose:**        Barr Engineering Co. is proposing to lead a multi-faceted team to study and demonstrate technology that will reduce the formation and presence of aerosols in the combustion zone of a lignite-fired utility boiler. The technology is for a low-cost retrofit feature to reduce fouling and overall boiler and furnace temperatures when using high alkali coals, and to help plants explore ways to reduce aerosols which is needed for the consideration in Carbon Capture technology.

The team recognizes that addressing this operational problem represents an opportunity to improve generation efficiency and carbon capture readiness. The proposed project includes bench-scale sorbent testing, field demonstration of sorbent injection at a full-scale power plant for fouling mitigation, developing a sorbent screening tool, performing a Techno-Economic Assessment, and advancing the technology to full-scale demonstration readiness.

**Duration:**     36 months

**Participants & Cost Share:**

DOE	\$4,000,000
Minnkota Power Cooperative (in-kind)	\$ 200,000
Otter Tail Power Company	\$ 100,000
North American Coal (NAC)	\$ 100,000
University of ND (UND) (in-kind)	\$ 199,412
NDIC	<u>\$ 400,000</u>
Total	\$4,999,412

**Project Deliverables:**    Status Reports  
Q4 2019 report-complete, Q1 2020 report-complete, Q2 2020 report-complete