Grant Round Application for G-024-A

DIRECTOR'S COMMENTS
G—024-A

"**Demonstration of Gas-Powered Drilling Operations for Economically Challenged Wellhead Gas and Evaluation of Complementary Platforms"**
Submitted by: Energy and Environmental Research Center
Request for $750,000; Total Project Costs $1,900,000
Duration: 12 Months

Description of the Project: The proposed project will explore, identify, and demonstrate technologies for utilizing wellhead gas. The project will demonstrate collection, transportation, and fueling of a diesel engine power system for a drilling operation using pipeline or "lean" gas and demonstrate the powering of a drilling operation utilizing delivery of compressed Bakken Formation associated gas. The results are intended to encourage and promote the use of new technologies that have a positive economic and environmental impact on oil and gas exploration. Results will provide producers with a technical evaluation of gas-fired bi-fuel diesel power for drilling operations, a demonstration of compressed natural gas (CNG) transport and delivery, and expanded markets for Bakken Formation associated gas.

Technical Reviewers' Comments

Reviewer 24A-04

Use of EERC technical team and equipment prevents unnecessary expenditures. Partnering with Bi-fuel equipment manufacturer adds additional resources that do not need to be purchased.
Recommendation: Fund

Reviewer 24A-05

The proposed project has significant additional funding coming from outside of the NDIC. A critical and high value component to the project is covered by the Non-Cash Share value of gaining access to a Continental drilling rig to prove the technology in the field environment. Gaining a stakeholder that is able to provide a drilling platform increases the value of this investment. Obtaining access to a drilling platform otherwise would be extremely challenging and detrimental to the projects opportunity for success.
Recommendation: Fund

Reviewer 24A-06

The proposal has significant technical contributions towards the NDICOGRC goals with the research of wellhead gas capture opportunities. The proposal offers an ongoing twelve month end-use technology study and three month Bakken gas research commitment. This work will provide oil and gas companies with valuable information when weighing viable and commercial wellhead gas possibilities. This could potentially lead to the capture of wellhead gas and minimize flaring in areas without an established gathering system.
Recommendation: Funding May Be Considered

Director's Recommendations:

The OGRP has been soliciting projects demonstrating the technical and economic viability of a bi-fuel system to reduce diesel consumption at drilling rigs by conducting a pilot project of a natural gas bi-fuel system at one of North Dakota's Bakken drilling rigs.

The EERC has taken a synergistic approach utilizing partners Continental Resources and Bakken Express on a proposal aiming to optimize Bakken Formation associated gas.

Recommendation: Fund