

PMC-EF2a

(2.04.02)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: North Dakota Department of Commerce

STATE: ND

PROJECT TITLE : SEP Flare Gas to Electricity Commercial Viability Project - Sites 5 & 6

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DOE-FOA-0000052	DE-EE0000142	GFO-0000142-009	EE142

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

B5.1 Actions to conserve energy or water

(a) Actions to conserve energy or water, demonstrate potential energy or water conservation, and promote energy efficiency that would not have the potential to cause significant changes in the indoor or outdoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, manufacturers, and designers), organizations (such as utilities), and governments (such as state, local, and tribal). Covered actions include, but are not limited to weatherization (such as insulation and replacing windows and doors); programmed lowering of thermostat settings; placement of timers on hot water heaters; installation or replacement of energy efficient lighting, low-flow plumbing fixtures (such as faucets, toilets, and showerheads), heating, ventilation, and air conditioning systems, and appliances; installation of drip-irrigation systems; improvements in generator efficiency and appliance efficiency ratings; efficiency improvements for vehicles and transportation (such as fleet changeout); power storage (such as flywheels and batteries, generally less than 10 megawatt equivalent); transportation management systems (such as traffic signal control systems, car navigation, speed cameras, and automatic plate number recognition); development of energy-efficient manufacturing, industrial, or building practices; and small-scale energy efficiency and conservation research and development and small-scale pilot projects. Covered actions include building renovations or new structures, provided that they occur in a previously disturbed or developed area. Covered actions could involve commercial, residential, agricultural, academic, institutional, or industrial sectors. Covered actions do not include rulemakings, standard-settings, or proposed DOE legislation, except for those actions listed in B5.1(b) of this appendix. (b) Covered actions include rulemakings that establish energy conservation standards for consumer products and industrial equipment, provided that the actions would not: (1) have the potential to cause a significant change in manufacturing infrastructure (such as construction of new manufacturing plants with considerable associated ground disturbance); (2) involve significant unresolved conflicts concerning alternative uses of available resources (such as rare or limited raw materials); (3) have the potential to result in a significant increase in the disposal of materials posing significant risks to human health and the environment (such as RCRA hazardous wastes); or (4) have the potential to cause a significant increase in energy consumption in a state or region.

B5.2 Modifications to pumps and piping

Modifications to existing pump and piping configurations (including, but not limited to, manifolds, metering systems, and other instrumentation on such configurations conveying materials such as air, brine, carbon dioxide, geothermal system fluids, hydrogen gas, natural gas, nitrogen gas, oil, produced water, steam, and water). Covered modifications would not have the potential to cause significant changes to design process flow rates or permitted air emissions.

Rational for determination:

DOE is proposing to provide \$1,320,000 in SEP ARRA funding to the North Dakota Department of Commerce, sub-recipient Blaise Energy, to conduct a flare gas to electricity commercial viability project.

Blaise Energy would use existing natural gas wells by installing a turn-key system at each location. Turbine generators would transform wellhead flare gas into three-phase electricity. By using the previously wasted flare gas, the proposed project would both generate electricity and reduce emissions. The captured electricity would be sold to the grid.

This NEPA determination applies to two projects, similar in scope, at separate locations. The first site would be Site #5 located at 48.139257, -103.605118 in Williams County, North Dakota. This site will replace site 2 from previous NEPA determination GFO-0000142-006 (CX B5.1) signed on 5.12.2011. The proposed site is located in a rural area surrounded by agriculture. The nearest residence is one mile northwest of the location. The proposed project would install a 1.3 MW capacity generator at the project site. The second site would be Site #6 located 48.967238, -101.120605 in Renville County, North Dakota. This site will replace site 4 from previous NEPA determination GFO-0000142-006 (CX B5.1) signed on 5.12.2011. The proposed site is located in a rural area surrounded by agriculture. There are no residences near the site. The proposed project would install a 2 MW capacity generator at the project site.

The generator and natural gas conditioning equipment would be skid mounted in an enclosed, standardized 40 feet x

8 feet container. The containers would be placed on existing well site gravel pads within the footprint prepared by the oil operator during the initial well site construction. These containers would enclose the gas conditioning, generation, control, switching and interconnect equipment.

Two equipment interconnects would be required. The natural gas line from the treater shack to the container would be buried or placed aboveground, depending on oil operator preference and duration of installation. The length of this interconnect would be equal to or less than 100 feet and would be located within the existing gravel pad. The electric line from the utility to the generator container would be equal to or less than 100 feet and would be located entirely within the existing gravel pad. Utility cross connect equipment would follow existing site specifications.

All equipment would be constantly monitored and remotely controlled. All required equipment would be on existing petroleum well sites that are already in compliance with existing environmental regulations. Due to the rural location of the two project sites and the fact that the generators would be in sound attenuated containers, noise impacts are not anticipated as a result of the proposed projects.

The proposed projects will obtain a WAPA Interconnect Agreement, Local coop Interconnect Agreement, and a North Dakota Department of Health Construction Permit. Emissions permits will be issued by the North Dakota Department of Health. Impacts from emissions will not be significant as the project would be converting flared gas to electricity and reducing the amount of CO₂ and CO that is released into the atmosphere.

Gas line pressure regulators will ensure the gas goes back to flare should the gen-set stop. The gas line feeding the gen-set will also have backflow prevention valves to ensure any flames/fire originating from the gen-set would not make it back into the operators system. All site safety guidelines established by the operator as well as electric utilities must and will be followed during installation and operations.

Impacts to threatened or endangered species, wetlands, floodplains or cultural resources are not anticipated as these resources are not present at the project site.

Based on this information, DOE has determined the capture of flare gas for reuse is consistent with activities identified in categorical exclusion B5.1 (actions to conserve energy) and that the modifications of the facility are consistent with B5.2 (Modifications to existing pumps and piping).

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

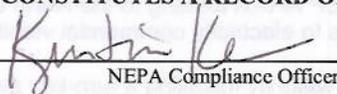
If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Cristina Tyler 11.18.2011

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____


NEPA Compliance Officer

Date: _____

11/29/2011

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :