

PUBLIC ABSTRACT

Applicant (primary) name: N-Viro International Corporation

Applicant's address: 3450 W. Central
Toledo, Ohio 43606

Team Members (if any):

(listing represents only participants
at time of application, not necessarily
final team membership)

Name	Terry J. Logan, Ph.D.
City	Columbus
State	Ohio
Zipcode	43212

Name	Robert F. Nicholson, MBA
City	Toledo
State	Ohio
Zipcode	43606

Name	Cindy L. Drill, M.S
City	Toledo
State	Ohio
Zipcode	43606

Proposal Title: Environmental & Economic Performance Evaluation of a Biofuel (N-Viro Fuel) Coal Additive

Commercial Application: New Facilities X Existing Facilities

Other, Specify:

Technology Type: Clean Coal Technology

Estimated total cost of project:
(May not represent final negotiated costs.)

Total Estimated Cost: \$ 990,157

Estimated DOE Share: \$ 495,078

Estimated Private Share: \$ 495,079

PUBLIC ABSTRACT (cont'd)

Anticipated Project Site(s):

Location (city, county, etc.) North Bend State OH Zipcode

Location (city, county, etc.) East Lansing State MI Zipcode

Location (city, county, etc.) State Zipcode

Type of coal to be used: Eastern Blend

Primary

Alternate (if any)

Size or scale of project: 10,000
Tons of coal/day input

And/or

1400 Megawatts, Barrels per day, etc.
Other (if necessary)

Duration of proposed project:
(From date of award) 36 (Months)

PRIMARY CONTACT:

For additional information,

interested parties should contact:

Name Robert F. Nicholson

Position Project Mgr.

Company N-Viro International, Corp.

Address 3450 W. Central Ave., Ste 328

City Toledo, OH 43606

(419) 535-6374
Telephone Number

Rfn@nviro.com
e-mail address

Alternative Contact:

Name Tim Nicholson

Position Site Liaison

Company N-Viro International, Corp.

Address 3450 W. Central Ave., Ste 328

Toledo, OH 43606

(419) 535-6374
Telephone Number

Tnich@nviro.com
e-mail address

PUBLIC ABSTRACT (cont'd)

Brief description of project:

N-Viro International Corporation (the “Company” or “N-Viro”) owns and licenses patented technologies to treat and recycle wastewater sludge’s and other bio-organic wastes, utilizing certain alkaline and mineral by-products produced by cement, lime, electric utilities and other industries (the “N-Viro Process”). Additionally, the Company has also operated N-Viro facilities for third parties on a start-up basis and currently operates one N-Viro facility on a contract management basis for the City of Toledo. There are currently over 80 wastewater treatment facilities throughout the world treating sludge using the N-Viro Process. The Company estimates that these facilities are treating and recycling sludge at an annualized rate of over 140,000 dry tons per year. N-Viro is a publicly, traded company whose common stock is traded on the Open Counter Bulletin Board Market.

Grant Request for N-Viro Fuel™ Technology Development

The Company has recently received approval of its patent application and is currently finalizing the commercialization of a product that uses the N-Viro Process to create a fuel supplement and additive for coal burning power plants (N-Viro Fuel™). The N-Viro Fuel product will provide a low cost fuel source and will reduce “greenhouse gases” generated during the coal burning process. The Company is seeking federal and / or state grants for the purpose of supporting the testing and full-scale demonstration of its N-Viro Fuel™ Technology.

Testing Phase

The first full-scale test phase of the N-Viro Fuel Technology will involve at least three tests: (1) the handling test and (2) the stack test (3) economic performance testing. We will also be using two sites, one pulverized bed and one fluidized bed to accurately represent the systems used in the industry.

The handling test is a test to be conducted at a coal-burning power plant whereby at least 200 tons of N-Viro Fuel will be tested to ensure that the N-Viro Fuel can be handled and conveyed through the plant’s existing coal handling and conveyance systems. Sludge and other organic waste materials to be used to make N-Viro Fuel could not be handled and conveyed through existing material handling and conveyance systems due to their physical characteristics.

The stack test is a test to be conducted at a coal-burning power plant whereby at least 1,000 tons of N-Viro Fuel will be combusted in the power plant for the purpose of evaluating the impact of N-Viro Fuel on BTU generation, emissions, economic impacts and other aspects of commercial power plant operation.

Benefits

N-Viro Fuel, as both a fuel supplement and additive, is expected to provide a number of benefits including:

- Availability of a low cost, renewable energy resource close to power generating facilities.

- Physical and chemical characteristics similar to that of coal, allowing the use of existing fuel handling and conveyance systems.
- Ability to use organic waste streams such as sewage sludge, animal manure, pulp and paper waste as a fuel source.
- Favorable BTU value
- Combustion temperatures similar to coal, thereby providing required stability of fuel in handling and conveyance systems including fuel pre-heaters.
- Enhanced combustion stability of organic wastes.
- Substitute for sorbent material including lime, anhydrous ammonia and other materials used to scrub sulfur dioxide and nitrous oxides from the combustion off-gases.
- N-Viro Fuel contains between 20% and 45% water, depending on desired blend. The water can be used to decrease flame temperatures, and thus provide reduced NOx emissions.
- Use of lime and limestone contained in the N-Viro Fuel can be used as a sorbent to scrub SOx.
- Treated to Class A, EQ (as defined by US EPA) to provide a pathogen-free product that can be safely handled by plant personnel.
- Potential to generate carbon credits by utilizing sludge destined for incineration, for the production of N-Viro Fuel.