

PMC-EF2a

(2.0+02)

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



RECIPIENT: Ion Power, Inc

STATE: DE

**PROJECT TITLE :** Corrugated Membrane and Fuel Cell Structures

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-PS36-08GO98009	EE0000462	GFO-10-517	EEO

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:

**B3.6** Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

## Rational for determination:

Ion Power Inc. (lon) would demonstrate the feasibility in developing a hydrogen fuel cell structure. Laboratory work would take place at the existing laboratories: lon lab at 720 Governor Lea Drive, New Castle, Delaware, GrafTech facilities in Parma, Ohio, and General Motors (GM) facility in Honeoye Falls, New York. The project is divided into seven tasks below:

## PHASE 1

- Task 1.0) Test Jig Fabrication and Validation
- Task 2.0) Graphite plate GDL sub-assembly development
- Task 3.0) Metal plate GDL sub-assembly development
- Task 4.0) Membrane Incorporation into the Corrugated-GDL-Plate-subassembly
- Task 5.0) Finite Element Analysis of Corrugated GDL Structure
- Task 6.0) Single Cell Testing of New Architectures

## PHASE 2 (Go, or No Go)

- Task 7.0) Project Management and Reporting

Ion indicates that no new permits are needed for this proposal; there would be no generation of hazardous/toxic waste; a Safety Operating and Chemical Hygiene Plans (also in compliance with OSHA and industry standards) are in place. Ion claims to store hydrogen gas in no more than 3 K-Sized 2000 psi cylinders, chained and secured outside of building, with safety shutoff conditions based on excess flow sensor, dual hydrogen sensors inside building, panic button, and fuel cell test station upset; acids, bases, and flammables are stored in separate fire proof cabinets that are continuously vented to the outside; security and fire alarms are monitored 24/7 by central monitoring service, fume hood area and ventilation system for solvent vapor extraction during film casting; >20 pounds of hydrogen are vented per year to the air as a result of fuel cell testing; Any additional VOC air emissions generated by this work would fall well below the existing permitted limit of ½ ton per year of VOC air emissions.

GrafTech indicates that no new permits are needed for this proposal; a health safety and environmental protection program (also in compliance with OSHA and industry standards) is in place. According GrafTech, liquid effluent and toxic waste is handled and discharged according to the procedures specified by local and state agencies; any air emissions generated by this work would fall below the existing permitted level.

GM indicates that no new permits are needed for this proposal; a Safety Operating and Chemical Hygiene Plans (also in compliance with OSHA and industry standards) are in place. According GM, liquid effluent and toxic waste is handled and discharged according to the procedures specified by local and state agencies.

Based on the information above, this project's impacts to the human and natural environment can be deemed less

than significant and this project would qualify for Categorical Exclusions B3.6.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION**

NEPA Compliance Officer Signature:

  
NEPA Compliance Officer

Date:

8/16/10

**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 :**

Field Office Manager's Signature:

\_\_\_\_\_  
Field Office Manager

Date:

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