

PMC-ND

(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION**

**RECIPIENT:** Giner ELX, Inc**STATE:** MA

PROJECT TITLE: Demonstration of Integrated Hydrogen Production and Consumption for Improved Utility Operations

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002022	DE-EE0008851	GFO-0008851-001	

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

CX, EA, EIS APPENDIX AND NUMBER:

Description:

A9 Information gathering, analysis, and dissemination Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

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.

B5.22 Alternative fuel vehicle fueling stations The installation, modification, operation, and removal of alternative fuel vehicle fueling stations (such as for compressed natural gas, hydrogen, ethanol and other commercially available biofuels) on the site of a current or former fueling station, or within a previously disturbed or developed area within the boundaries of a facility managed by the owners of a vehicle fleet. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Giner ELX, Inc. (Giner) for the development of an integrated system that incorporates Proton Exchange Membrane (PEM)-based water electrolysis for hydrogen production and storage, electricity generation with site-specific PEM-based stationary fuel cells, and hydrogen fuel for refueling of fuel-cell-electric-vehicles (FCEV), with dispatch decisions based on grid-level optimization controls. Design, manufacturing, and assembly activities would take place at Giner's facility in Massachusetts, General Motors (GM) facility in Michigan, and OneH2's facility in North Carolina. Feasibility and optimization studies would take place at the University of Central Florida in Orlando. The project would be designed to provide photovoltaic (PV) smoothing to base load considerations at Orlando Utility Commission (OUC's) 3800 Gardenia Ave. facility in Orlando, Florida. The hydrogen produced from the electrolyzer would be employed by FCEVs and stationary fuel cell electrical generators. Multiple usage profiles would be explored for the FCEV, such as consumer and fleet operations for contingency events and dispatch profiles would be explored for stationary fuel cells over multiple use cases, such as grid peak shaving, load shifting, PV smoothing, and customer service models such as demand reduction and emergency back-up power. Onsite components at the OUC facility would include the electrolyzer, fuel cell power generation system, 750 kVA transformer, and hydrogen storage and dispensing system.

Installation of the onsite components would occur near an existing fleet maintenance facility at OUC's Gardenia Ave. location, which also has a call center on site as well as water quality testing labs, a water meter shop, and an equipment warehouse. No tree clearing or grading is required for installation of the system. The only ground disturbing activities expected would be related to the pouring of a concrete pad, if needed, for the electrolyzer system. Permits may be required for the installation of the concrete pad and the electrical connections to individual system components. Any permits needed would be in place prior to those activities occurring. Known potential health and safety hazards would include the flammability of hydrogen and electrical hazards related to the use of high-powered high-voltage systems. The safety committees for Giner, GM, OneH2, and OUC would oversee the operation and assembly of their individual system(s) developed during the project and each have dedicated hydrogen safety systems as an active component of their operations. These safety committees would provide assurance of compliance with all federal, state, and local safety and health laws and regulations. Additionally, a DOE reviewed hydrogen safety plan would be developed and implemented by OUC to accommodate the equipment that would be installed at their site. The integrated system being developed is considered emission neutral and would be powered only when OUC's existing solar systems have excess power. The only consumable of the project is city water used for electrolysis. Water-reject from the electrolyzer system would have a higher concentration of minerals but is considered non-hazardous and would be disposed of either into the sewage drain or could possibly be used for irrigation purposes. DOE conducted a review of resources of concern that could potentially be impacted by project activities and found that, considering the above referenced location and measures, there would be no impacts anticipated to these resources due to the proposed activities of the project.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Fuel Cell Technologies Office

This NEPA determination does not require a tailored NEPA provision.

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



Casey Strickland

NEPA Compliance Officer

Date: 11/6/2019

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
- Field Office Manager review required

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

Field Office Manager's Signature: _____

Field Office Manager

Date: _____