

PMC-ND  
(1.08.09.13)

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



RECIPIENT: NREL

STATE: CO

**PROJECT TITLE :** NREL: Design and Implementation of a Thermal Load Reduction System on a Hyundai Sonata PHEV;  
 NREL Tracking No.: 15-010

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000991	DE-AC36-08GO28308	NREL-15-010	GO28308

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:

**DOE/EA-1968 (NREL STM)**

SITEWIDE ENVIRONMENTAL ASSESSMENT, U.S. DOE NATIONAL RENEWABLE ENERGY LABORATORY, SOUTH TABLE MOUNTAIN CAMPUS, GOLDEN, COLORADO

**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.

**Rationale for determination:**

The U.S. Department of Energy (DOE) National Renewable Energy Laboratory (NREL) and its sub-recipients propose to conduct testing of thermal load reduction of a hybrid electric drive vehicle. The proposed activities would be conducted per an award under the DOE Energy Efficiency and Renewable Energy Funding Opportunity Announcement DE-FOA-0000991.

The proposed project would consist of both experimental evaluation and modeling of a prototype plug-in hybrid electric vehicle. The purpose of this work is to quantify the impact of advanced climate control load technologies on plug-in electric vehicle range. Phase I of the project would be to experimentally evaluate the impact of a range of thermal load reduction technologies on automotive climate control loads. After the individual technologies are evaluated, they would be down-selected and implemented in a drivable prototype vehicle and the vehicle performance will be quantified under a range of conditions.

The proposed project scope, project activities, locations of the various activities, and the involved sub-recipients are described in depth in the EQ-1 and the Technical Volume uploaded to the PMC. All vehicle testing and evaluation would occur at existing testing facilities, including the NREL Vehicle Test and Integration Facility (VTIF) at the NREL South Table Mountain campus in Golden, Colorado, the Halla Visteon Climate Control (HVCC) indoor test center in Belleville, MI, the Hyundai America Technical Center, Inc. (HATCI) outdoor cold weather test facility in Minnesota and

hot weather testing at the HATCI California Proving Grounds in California City, California. Various automotive energy saving technologies would be tested including improved glazing, energy reflecting exterior paint, and HVAC system and control improvements provided by other sub-recipients from existing manufacturing facilities. Computer-aided modeling and other analyses would occur by NREL personal using existing research support facilities located at the Denver West Office Park Building 16 facility in Golden, Colorado.

As all hybrid electric vehicle testing would occur at existing automotive test facilities and automotive energy saving technologies test articles would come from existing manufacturing facilities, environmental impacts of the proposed action would be minimal. Transportation of the two hybrid electric vehicles via semi flat-bed trailer to the various test locations would result in a de minimis amount of air pollutants. Production of the various automotive energy saving technology test articles would also generate a small quantity of air emissions from the existing manufacturing facilities. Similarly, the manufacturing of these articles could result in the use of hazardous materials and the generation of hazardous waste. Manufacturing of these test articles would occur in accordance with existing corporate environmental, health, safety policies and procedures, and applicable federal, state and local regulations.

Outdoor testing of vehicles at the NREL VTIF and vehicle performance modeling and analysis by NREL at Building 16 were analyzed in the December 2014 NREL STM Site-Wide Environmental Assessment (DOE/EA-1968). DOE/EA-1968 and its Finding of No Significant Impact (FONSI) are hereby incorporated by reference. DOE has determined that these activities to occur at NREL facilities are bounded by the environmental impact analysis contained in DOE/EA-1968, and its FONSI. DOE has determined that vehicle testing activities at sub-recipient locations and the providing of automotive energy saving test articles by sub-recipients are consistent with actions contained in DOE categorical exclusion B5.1 "Actions to conserve energy or water." Therefore, DOE has determined that no further NEPA review for the proposed project is required.

**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 :

NEPA review completed by Rob Smith on 3/5/2015.

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

NEPA Compliance Officer Signature: \_\_\_\_\_

Electronically Signed By: Kristin Kerwin  
NEPA Compliance Officer

Date: 3/6/2015

**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: \_\_\_\_\_