

## STATEMENT OF CONSIDERATIONS

REQUEST BY GENERAL MOTORS LLC (GM) FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER NREL SUBCONTRACT NO. ZCI-1-40497-01; W(A) 2011-041

GM has requested a waiver of domestic and foreign patent rights of the United States of America in all subject inventions arising from its work under subcontract number ZCI-40497-01 under the prime contract DE-AC36-08GO28308, the contract between DOE and the Alliance for Sustainable Energy, LLC, as the contractor of the National Renewable Laboratory. The subcontract is entitled "Development of Computer-Aided Design Tools for Automotive Batteries."

The objective of the project funded through the subcontract is to develop suites of software tools that enable automobile and battery manufacturers, pack integrators, and other end-users to simulate and design battery packs and accelerate development of energy storage systems that meet electric drive vehicles requirements. More specifically, according to the petition, the project funded by the subcontract has "two main tasks, namely cell-level model development and pack-level model development. The principal objective of each task is to produce an efficient and flexible simulation tool for prediction of multi-physics battery response. In partnership with DOE/NREL, the Project Team will interact with the CAEBAT working groups to identify end-user needs and establish requirements, integrate and enhance existing sub-models, develop cell- and pack-level software tools, and perform experimental testing to validate the tools using two commercial chemistries: lithium manganese oxide and lithium iron phosphate. In a third task, the team will create interfaces to enable these new tools to interact and interface with current and future battery models developed by others."

The total anticipated cost of the subcontract is \$7,154,783 with GM providing \$3,357,391.50 as cost share funds for a cost share percentage of 50%. This waiver is contingent upon GM maintaining, in aggregate, a cost share percentage of 50% or more over the course of the subcontract. The project period is for 36 months, beginning June 1, 2011 through May 31, 2014.

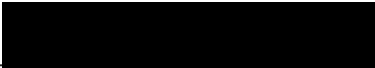
As set forth in its petition, GM has more than 100 years of experience developing advanced automotive technologies and incorporating such technologies into production vehicles. More specifically to this project, GM has significant technical expertise in energy storage systems back to the 1960s including relevant battery pack and module integration experience since the 2000s. GM has been an industrial leader in Extended Range Electric Vehicles since 2005 including the recent launch of the Chevy Volt. GM has experienced staff with industry-recognized experts in research and development with access to the latest equipment and extensive support facilities. GM has more than 70 patents and pending patent applications related to this technology area. To date, in addition to the 50% cost share obligation of this subcontract, GM has invested hundreds of millions of dollars in battery cell technology.

GM has agreed that this waiver shall be subject to the march-in and preference for U.S.

industry provisions, as well as the U.S. Government license, comparable to those set out in 35 U.S.C. 202-204. Further, GM has agreed to the U.S. competitiveness provisions as attached to this Statement. In brief, GM has agreed that products embodying any waived invention or made through the use of any waived invention shall be substantially manufactured in the United States, and that GM will not license, assign, or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements.

Referring to item 10 of the waiver petition, GM does not believe the granting of this patent waiver will have any adverse effect upon market concentration. GM anticipates it would license any resulting technology. Moreover, GM believes consumers and manufacturers have other technology options that would help maintain a competitive marketplace.

Considering the foregoing, it is believed that granting this waiver will provide GM with the necessary incentive to invest its resources in commercializing the results of the subcontract in a manner that will make the above technology available to the public in the shortest time. Therefore, upon evaluation of the waiver petition and in view of the objectives and considerations set forth in 10 CFR 784, all of which have been considered, it is recommended that the requested waiver be approved.

  
Glen R. Drysdale  
Patent Attorney  
Golden Field Office

Date: 10/12/11

Based upon the foregoing Statement of Considerations and representations in the attached waiver petition, it is determined that the interests of the United States and the general public will best be served by a waiver of patent rights of the scope determined above, and therefore the waiver is approved. This waiver shall not apply to any modification or extension of the subcontract, where through such modification or extension, the purpose, scope, or cost of the subcontract has been substantially altered.

CONCURRENCE:

APPROVAL:

[Redacted signature]

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Patrick Davis  
Program Manager  
Vehicle Technologies Program

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John T. Lucas  
Assistant General Counsel for Technology  
Transfer and Intellectual Property

Date: 1/4/12

Date: 1/4/2012

## **U.S. COMPETITIVENESS**

The Contractor agrees that any products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States, unless the Contractor can show to the satisfaction of DOE that it is not commercially feasible to do so. In the event DOE agrees to foreign manufacture, there will be a requirement that the Government's support of the technology be recognized in some appropriate manner, *e.g.*, recoupment of the Government's investment, etc. The Contractor further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees. Should the Contractor or other such entity receiving rights in any waived invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license, or other transfer of rights in any waived invention is suspended until approved in writing by DOE.