STATEMENT OF CONSIDERATIONS

REQUEST BY ALSTOM POWER, INC. ("ALSTOM") FOR AN ADVANCE WAIVER OF PATENT RIGHTS UNDER DOE AWARD NO. DE-EE0005494;
W(A) 2013-010

Alstom has requested a waiver of patent rights of the United States of America for all subject inventions arising from its participation under the above referenced award entitled "Cost of Energy Reduction for Offshore Tension Leg Platform (TLP) Wind Turbine Systems Through Advanced Control Strategies for Energy Yield Improvement, Load Mitigation, and Stabilization." Alstom's subawardees are MIT, Texas Tech University, and the National Renewable Energy Laboratory, none of which are subject to this waiver.

The purpose of the award is to perform fundamental research and analysis, to develop and validate aero-elastic models of Alstom wind turbines, to develop innovative control strategies aimed at increasing energy yield or decreasing loads, to benchmark the effectiveness of those new control strategies using aero-elastic simulation models, and to develop cost of energy models based on the developed control strategies and other innovations related to the wind turbines.

The total anticipated cost of the project is $874,995, with Alstom cost sharing $175,000. This waiver is contingent upon Alstom maintaining a cost sharing percentage of at least 20% during the course of the award. The period of performance for the award is September 30, 2011 through March 31, 2014.

As noted in the waiver petition, Alstom has been active in the wind power industry since 1981. Alstom designs, builds, and services technologically advanced products and systems for the world's energy and transport infrastructure, including wind power. Alstom considers itself to be a technical leader with products and innovations that are helping to grow its market share, particularly in the offshore wind market. Alstom has produced over 2100 wind turbines that are in service around the globe. Work under this award will involve research on three of Alstom's commercial wind turbines: the 1.67 MW ECO 86, the 3 MW ECO 100, and the 6 MW Haliade 150.

Alstom has invested over 30 years developing technical innovations in the wind power industry. Alstom has over 200 R&D engineers pursuing technical advances in critical technologies related to the design, construction, and operation of wind turbines. Since establishing an innovation organization in the United States in 2010, Alstom has spent over $10.5 million in research partnerships with NREL, Texas Tech University, and MIT, funding research efforts with these organizations, and installing wind turbines for R&D purposes in the United States. It has installed full-scale commercial wind turbines for use in R&D testing in Golden, Colorado and in Lubbock, Texas. In addition, Alstom has recently completed the development and prototyping of its Haliade 150 offshore turbine. Alstom plans to spend over $10 million in association with this award, as well as two other DOE awards under which it is a subrecipient. Furthermore, Alstom anticipates investing in research and development efforts to further refine and commercialize wind energy technologies beyond the scope of its DOE awards.

Granting this waiver will provide Alstom with the intellectual property rights it needs to commercialize the technologies it develops under this award. This award supports commercialization of Alstom's offshore wind technology in the U.S. market. Without significant reduction in the cost of energy produced by offshore wind turbines, the offshore wind power industry is unlikely to be successful in the U.S. market. Through the advanced control technologies to be developed under this award, and those already existing in the Haliade turbine, Alstom hopes to realize this needed reduction in cost of energy.

Alstom 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, Alstom has agreed to the attached U.S. Competitiveness provision, paragraph (t). In brief, Alstom has agreed that products embodying a waived invention or produced through the use of a waived invention will be manufactured substantially in the United States unless Alstom can show to the satisfaction of the DOE that it is not commercially feasible to do so.

Referring to item 10 of the waiver petition,, granting this waiver is anticipated to have a minimal effect on limiting competition. At present, Alstom has a relatively small share of the global wind turbine market, particularly in North America. GE, Siemens, Vestas, Gamesa, Enercon, Sinovel, Goldwind, Ming Yang, and other manufacturers hold greater global market shares than Alstom. In addition, the manufacturing community is engaged in significant research efforts into methods of improving cost of energy for wind turbines. This research includes alternate methods of improving energy yield or decreasing mechanical loads. Given the breadth and scale of this research, it is unlikely that any one technology or company will dominate the wind turbine market in the foreseeable future

Considering the foregoing (*e.g.*, Alstom's technical experience and competence and past and on-going investments in this technology), it is believed that awarding this waiver will provide Alstom with the necessary incentive to invest its resources in commercializing the results of the award 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 awarded.

[redacted]

Julia Cook Moody
Deputy Chief Counsel for Intellectual Property
Golden Field Office

Date: 4 Apr 2013

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 be best served by a waiver of patent rights of the scope determined above, and therefore the waiver is awarded. This waiver shall not apply to any modification or extension of the award, where through such modification or extension, the purpose, scope, or cost of the award has been substantially altered.

CONCURRENCE:

[redacted]

Jose R. Zayas
Wind & Water Power Technologies Office

Date: 5/15/2013

APPROVAL:

[redacted]

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

Date: 5/17/2013

(t) 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 the DOE that it is not commercially feasible to do so. In the event the 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 agrees that it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements. Should the Contractor or other such entity receiving rights in the invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license, or other transfer of rights in the waived invention is suspended until approved in writing by the DOE.