

## STATEMENT OF CONSIDERATIONS

REQUEST BY BENEQ OY (“BENEQ”) FOR WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS IN AN IDENTIFIED INVENTION, DOE INVENTION NO. S-119,291, MADE UNDER DOE CONTRACT NO. DE-AC36-08GO28308 WITH ALLIANCE FOR SUSTAINABLE ENERGY, LLC (“ALLIANCE”); W(I)2010-008

BENEQ has requested a waiver of domestic and foreign patent rights of the U.S. Department of Energy (DOE) related to BENEQ’s participation in the conception of the invention entitled “Moisture Barrier Package Consisting of Substrate, Atomic Layer Deposition Interfacial Layer, and PECVD Moisture Barrier Overcoat Layer” (“Moisture Barrier invention”). As explained in more detail further below, the Moisture Barrier invention was conceived outside of any formal agreement with DOE but falls under an “arrangement” under 42 U.S.C. 5908, and therefore, a waiver is needed.

As set forth in the abstract from the attached patent application and the attached record of invention regarding the Moisture Barrier invention, the Moisture Barrier invention is a moisture barrier, device or product having a moisture barrier or a method of fabricating a moisture barrier having at least a polymer layer, and interfacial layer, and a barrier layer. The polymer layer may be fabricated from any suitable polymer, including fluoropolymers such as polyethylene terephthalate (PET) or polyethylene naphthalate (PEN), or ethylene-tetrafluoroethylene (ETFE). The interfacial layer may be from by atomic layer deposition (ALD). In embodiments featuring an ALD interfacial layer, the deposited interfacial substance may be  $Al_2O_3$ ,  $AlSiO_x$ ,  $TiO_2$ , and an  $Al_2O_3/TiO_2$  laminate. The barrier layer associated with the interfacial layer may be deposited by plasma enhanced chemical vapor deposition (PECVD). The barrier layer may be a  $SiO_xN_y$  film. The most likely commercial uses for the Moisture Barrier invention is to produce moisture barrier packaging for various industries including the PV industry, electronics, and pharmaceuticals.

The Moisture Barrier invention arose out of a longstanding “collegial” relationship between the National Renewable Energy Laboratory (NREL) and BENEQ for which no written agreement was in place. Each group of researchers (*i.e.*, a group of researchers at NREL and a group of researchers at BENEQ) worked independently at their respective institutions. Material samples were exchanged informally whereby BENEQ’s special process for ALD coatings was combined with NREL’s idea for an overcoat layer. At no time was any funding, including U.S. Government funding, exchanged between NREL and BENEQ or otherwise provided to BENEQ from NREL or DOE.

NREL’s participation regarding the conception of the Moisture Barrier invention arose under prime contract DE-AC36-08GO28308, the contract between DOE and the ALLIANCE, as the contractor of NREL (“the Prime Contract”). The ALLIANCE, as the contractor of NREL, has elected to take title to the Moisture Barrier invention for its participation regarding the conception of the Moisture Barrier invention pursuant to the Prime Contract.

In general, under 42 U.S.C. 5908, title to any invention made or conceived in the course of or under any contract with the DOE vest with DOE. “Contract” is broadly defined as any contract, grant, agreement, understanding, or other arrangement and does not include any requirement that the contract be in writing. Moreover, the right to take title to subject inventions

by certain contractors under 35 U.S.C. 202 (*i.e.*, the Bayh-Dole Act) does not apply to the Moisture Barrier invention because the unwritten “collegial” relationship between NREL and BENEQ does not constitute a “funding agreement” as required under the Bayh-Dole Act. Therefore, without a patent waiver from DOE, it appears that title to the Moisture Barrier invention from BENEQ’s participation vest in DOE.

Granting a patent waiver for BENEQ would remove any uncertainty regarding the proper title to the Moisture Barrier invention. With a patent waiver, NREL and BENEQ would be joint owners to the Moisture Barrier invention subject to certain U.S. Government rights. Each as joint owners would be free to exploit the Moisture Barrier invention without accounting to the other.

As indicated in the attached letter from NREL dated August 27, 2010, NREL has filed the attached U.S. provisional patent application directed to the Moisture Barrier invention and desires to pursue international patent coverage as well. BENEQ has indicated that it is willing to cooperate with NREL regarding obtaining patent protection for the Moisture Barrier invention. NREL and BENEQ are also discussing a formal research relationship between the two and the University of Colorado to further explore this technical area. However, it is believed that in order to secure BENEQ’s cooperation regarding the patent applications and to reach agreement regarding further research that a patent waiver for BENEQ is necessary.

BENEQ, based in Vantaa, Finland, is a supplier of equipment and coating technology. Although BENEQ does use several U.S. sources for parts and sub-assemblies in manufacturing, BENEQ does not have any manufacturing capabilities in the U.S. Therefore BENEQ is unable and unwilling to agree to the standard U.S. competitiveness provision that would require products embodying the Moisture Barrier invention be substantially made in the U.S. However, the policy behind the standard U.S. competitiveness provision is to help to secure U.S. jobs or other benefits to the U.S. economy from DOE funded research and development.<sup>1</sup> This policy is not applicable to the present circumstance because, as explained above, BENEQ did not receive any funding from DOE for BENEQ’s participation or research efforts.

As set forth in the attached letter from BENEQ dated October 6, 2010, despite BENEQ being a non-U.S. organization and not currently having manufacturing capabilities in the U.S., BENEQ does list a number of interactions with and commitments to the U.S. and the U.S. market.

The grant of this waiver will not have an adverse impact on competition or on market concentration, since NREL will be a joint owner of the Moisture Barrier invention and NREL is subject to Public Laws 98-620 and 101-189 in its technology transfer activities. The technology transfer provisions of the contract further require consideration to fairness of opportunity in conducting licensing activities. The patent waiver will be subject to the march-in rights and preference for U.S. industry, as well as the U.S. Government license, set forth in 35 USC § 202, 203, and 204.

Upon evaluation of the waiver petition, in view of all the objectives and consideration set forth in 10 CFR 784, all of which have been considered, it is recommended that the requested

---

<sup>1</sup> See Draft Pre-Decisional Document entitled “Proposed Reform of Competitiveness Obligation in Patent Waivers, Laboratory-Issued Licenses and CRADA’s” and Draft White Patent Entitled “U.S. Competitiveness in Patent Waivers, Lab Issued Licenses and CRADA’s

waiver be granted.

[Redacted signature line]

Glen R. Drysdale  
Patent Attorney  
Golden Field Office

Date: 10/26/10

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 described above, and therefore the waiver is granted.

CONCURRENCE:

[Redacted signature]

Jeffrey M. Baker  
Director of the Office of Laboratory  
Operations  
Golden Field Office

APPROVAL:

[Redacted signature] 1/13/11

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