

MEMORANDUM OF AGREEMENT

BETWEEN

KOREA HYDRO & NUCLEAR POWER CO. LTD.

AND

WASHINGTON SAVANNAH RIVER COMPANY LLC

DEVELOPMENT OF VITRIFICATION TECHNOLOGY FOR NUCLEAR WASTE STABILIZATION



This Memorandum of Agreement (MOA) is between the Korea Hydro & Nuclear Power Co., Ltd. (KHNP) and the Washington Savannah River Company LLC (WSRC), which manages and operates the Savannah River Site (SRS) and Savannah River National Laboratory (SRNL) under Contract No. DE-AC09-96SR18500 with the Department of Energy, Office of Environmental Management (DOE EM) [individually referred to as the PARTY, or collectively as the PARTIES]. The SRNL is the applied research and development laboratory for DOE EM and is the primary WSRC interface for this MOA with KHNP. This MOA is effective upon the date of the last Party signing.

Purpose

This MOA will serve as the basis for developing cooperative efforts between the Parties in the development of vitrification technologies for high-level waste. As these efforts develop and grow, the formation of alliances between the Parties, and their associated affiliated and partner institutions, will be evaluated to more broadly support important initiatives in the principal focus area mentioned above.

KHNP and SRNL intend to strengthen their research and development capabilities, and develop new programs that support DOE EM's critical needs. The core competencies and capabilities of the Parties are largely complementary in that KHNP operates the Nuclear Engineering and Technology Institute (NETEC) and SRNL is an applied research and development laboratory with both Parties known for their innovative, practical applications of technology. Because the capabilities of the Parties complement each other so well, the capabilities can be leveraged to meet current and future mission needs in a more cost-effective manner, and lead to a strong synergistic relationship. The Parties have identified several target areas for active collaboration between the two organizations as a first step in this process. Accordingly, in order to enable the broadest possible cooperation in achieving these shared goals, the Parties have entered into this MOA.

Areas of Cooperation

As indicated above, the Parties will focus on cooperative efforts in the development of vitrification technologies for high-level waste. Initial efforts will center on specific initiatives in the areas described below, and others will be explored and developed as mutually agreed by the Parties.

1. *Glass Formulation Development:* The Parties have complementary experience and significant expertise in glass formulation on vitrification of radioactive waste. Through an envisioned collaboration, the Parties can formulate high waste loading and durability glasses for both low-level and high-level nuclear waste.
2. *Advanced Melter & Plasma Technology:* The Parties have interest in the application of advanced technology in vitrification of radioactive waste. KHNP

has developed a unique vitrification process for treatment of low-level waste from nuclear power plants using a pilot vitrification plant which is owned and operated by KHNP. In order to utilize the developed vitrification technology, KHNP launched a commercial construction project of a vitrification facility at the Ulchin nuclear power site in Korea. This process is not only suitable to treat the low-level waste, but also capable for vitrifying high-level waste. The Parties will demonstrate the ability of a suite of advanced technologies to successfully remediate a variety of radioactive wastes. The Parties will also share applicable lessons-learned from engineering- and plant-scale deployments of these technologies.

3. *Exchange of Key Personnel:* The Parties have limited resources in key technology areas, such as, glass formulation, melter design and operation. The two organizations envision and will evaluate opportunities for exchange of key personnel in critical project areas and short-term assignments in key technology areas to assist in accomplishing mission objectives and to facilitate development of personnel. Any exchange of personnel will be conducted in accordance with the requirements of DOE Order 142.3, Unclassified Foreign Visits and Assignments Program.

Under this MOA, the Parties intend to: (i) use their best efforts to identify and notify each other of projects on which they can collaborate; and (ii) provide each other with all information and support reasonably requested by the other Party to facilitate the MOA objectives.

Implementation

In order to foster the successful implementation of this MOA, the Parties pledge in good faith to go forward with this MOA, and to accomplish the goals and purposes of this MOA, subject to the terms and conditions of the MOA.

No work or funds are committed under this MOA. Any commitment of work or funds shall be made under a separate document following the contract requirements of each Party.

Terms

1. This Agreement shall remain in effect for a period of five (5) years from the date of final signature, unless superseded by a more comprehensive agreement or terminated by the Parties. It may be extended by mutual agreement of the Parties. It may be terminated by either Party upon 90 days written notice to the other Party.

2. Each Party acknowledges that they are entering into this MOA in a spirit of cooperation.
3. The Parties agree that any work to be undertaken pursuant to this Agreement will be the subject of separate and specific agreements that are consistent with the terms and conditions of WSRC's contract with DOE and KHNP's operating directives. The exchange of information will also be in accordance with the information protection requirements set forth in WSRC's contract with DOE and KHNP's operating directives. For any inconsistencies between WSRC's contract with DOE and KHNP's operating directives, WSRC's contract with DOE will resolve such issues.
4. In the event that one of the Parties publishes articles related to specific collaborative work, in whole, or in part, credit or co-authorship of the publication will be provided to all Parties. Each Party will be provided copies of proposed publications by the other Party at least 30 days prior to publication for review and comment. A Party can elect to not have their authorship credited.
5. Unless otherwise specified, this MOA embodies the entire understanding between the two Parties and any prior representation or agreement is superseded.
6. Conflicts or issues that may arise which cannot be resolved between KHNP and SRNL personnel should be raised to the necessary level of management to obtain resolution. An effort shall be made by all participants to resolve conflicts with a spirit of cooperation at the working level.
7. Any modifications to this MOA must be in writing and signed by all Parties.
8. It is understood and agreed that this Agreement is entered into by WSRC; however, this Agreement may be transferred from WSRC to DOE or to DOE's designee with DOE approval and without the prior approval by KHNP.
9. EXPORT CONTROL. (a) The Parties agree to adhere to all applicable U.S. export laws and regulations, (b) Each Party acknowledges that it is responsible for its own compliance with all U.S. export control laws and regulations, and (c) Each Party will not knowingly export directly or indirectly, through their affiliates, licensees, or subsidiaries, any export controlled hardware, software, or technical data in the performance of this MOA without an appropriate review and license, if necessary.
10. PUBLIC INFORMATION. Subject to the Freedom of Information Act (5 U.S.C. 552) requests for disclosure of information to the public regarding projects and programs referenced in this MOA, or for the MOA, shall be forwarded by the Party receiving the request to DOE EM or field operations office for action. Third party requests for this MOA, including discovery requests, will be coordinated with both Parties.

11. The Parties acknowledge that during the course of this Agreement they may wish to exchange information of a proprietary nature. The Parties agree that any such disclosures of proprietary information shall be made only to those subject to an obligation to protect such information.

Key Implementing Officials

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Authorized Signature

Those individuals whose signatures appear below certify that they are authorized to sign on behalf of the respective Parties to this Agreement. This Agreement will be executed in duplicate, and is not effective until signed by both Parties.

**KOREA HYDRO & NUCLEAR
POWER COMPANY LTD.**

**WASHINGTON SAVANNAH RIVER
COMPANY LLC**

Song 17-J

Myung-Jae Song, Ph.D.
Senior Vice President
KHNP

[Signature]

Dr. G. Todd Wright
Laboratory Director
Savannah River National Laboratory

Mar. 13. '08.

Date:

13 Mar 2008

Date: