

MEMORANDUM OF UNDERSTANDING
between the
TENNESSEE VALLEY AUTHORITY
and the
U.S. DEPARTMENT OF ENERGY
for

ADVANCED FUEL CYCLE DEMONSTRATION SUPPORT

I. Background

It is the vision of the U.S. Department of Energy (DOE) to support a significant, wide-scale use of nuclear energy in a safe and secure manner, and to take action now that will allow that vision to be achieved while decreasing the risk of nuclear weapons proliferation and effectively addressing the challenge of nuclear waste disposal. Domestically, this vision includes assessing alternatives to the current U.S. open nuclear fuel cycle that would benefit future repository capacity, produce more manageable waste forms, reduce stocks of fissile material, and foster the expansion of clean and reliable electricity generation.

DOE has solicited input from the stakeholder community and is now preparing a Programmatic Environmental Impact Statement pursuant to the National Environmental Policy Act to fully evaluate a variety of nuclear fuel cycle alternatives. Several industry consortia are in the process of providing input to DOE on various approaches for deploying domestic fuel cycle facilities.

DOE is also looking at a range of alternatives for potential advanced fuel cycle facilities. An integrated regional demonstration of advanced fuel cycle facilities at an intermediate scale may be a reasonable step towards implementing the next generation of advanced fuel cycle technologies on a national scale. The Tennessee Valley Authority (TVA) has envisioned a concept for an Advanced Fuel Cycle Demonstration (AFCD) project that could include an instrumented, nuclear fuel recycling center capable of spent nuclear fuel receipt, storage, and reprocessing; fuel fabrication; and, a co-located, flexible reactor facility. Such a demonstration project may offer substantial and distinctive benefits by: 1) providing a platform to focus and integrate DOE's ongoing research and development activities; 2) helping to restore the nation's deteriorating nuclear infrastructure; and 3) addressing critical human capital issues by providing training and experience to the next generation of U.S. engineers, scientists and technicians.

TVA has a continuing commitment to nuclear power and has extensive experience in the design, licensing, construction, operation and maintenance of nuclear facilities. TVA recently restarted a nuclear unit at its Browns Ferry plant, has submitted a Combined License application to the Nuclear Regulatory Commission for two advanced reactor design nuclear units at its Bellefonte site and has resumed efforts to complete a second nuclear unit at its Watts Bar plant. TVA has successfully supported a number of key DOE initiatives related to the advancement and continuation of the use of nuclear power.

II. Purpose

This Memorandum of Understanding (MOU) is entered into by the DOE Office of Nuclear Energy (DOE) and TVA (referred to hereinafter as the "Participants") and sets forth the intention to evaluate a demonstration-scale concept. This MOU will establish the guiding principles and overall framework for the exchange of information and conduct of activities between the Participants regarding evaluation of deployment alternatives for AFCD technologies and facilities. However, nothing in this MOU should be construed as a selection or endorsement of TVA or its AFCD concept, nor should it be construed as a commitment by DOE to the use of any particular type or origin of spent or nuclear fuel in the evaluation or potential deployment of any AFCD technologies and facilities. The purpose of this MOU is to gather information for use by DOE and TVA.

III. Scope

The activities under this MOU are focused on providing supporting data and information to help inform the Secretary of Energy's decision on the path forward for GNEP in 2008. Near-term efforts would include the development of conceptual plans, and cost and schedule information to better define and describe the AFCD concept. In addition, the Participants would collaborate to develop data and information for use by DOE in the assessment of potential AFCD deployment options. Activities envisioned under this MOU may include the following types of activities, as appropriate:

- developing initial conceptual plans, as well as cost and schedule information on deployment options for advanced fuel cycle facilities;
- evaluating the use of plutonium-bearing mixed-oxide fuel in light water reactors, including an assessment of the technical, regulatory and business implications;
- providing user requirements and utility perspectives related to design, licensing, construction, operation and maintenance of nuclear facilities;
- describing suitable business models, revenue streams and risk mitigation strategies; and
- identifying research and development needs and priorities for the AFCD concept.

Details for specific work activities, deliverables, schedules, cost and funding details to be accomplished under this MOU will be established and implemented through an Interagency Agreement (IA).

The scope of this MOU does not include the design, licensing and construction of any specific AFCD technologies or facilities. Any such activities are contingent upon future DOE program decisions and other relevant considerations, including the availability of funding and compliance with applicable laws and regulations. This MOU creates no binding obligations on the part of the Participants.

IV. Roles and Responsibilities

TVA and DOE will each be responsible for assigning a point of contact for the various interactions and activities where TVA and DOE mutually agree that involvement is necessary or beneficial for the evaluation of development and demonstration alternatives for AFCD technologies and facilities. TVA

and DOE will meet periodically, as mutually agreed on, to coordinate activities and to develop any necessary Interagency Agreement(s). DOE will determine the extent to which it may be appropriate for DOE national laboratories to support TVA's efforts. The Participants will mutually agree upon activities conducted under this MOU. Specific work scope, deliverables, schedules, funding levels and the source of funding will be specified and authorized under an Interagency Agreement.

DOE Responsibilities

DOE will provide TVA with its technical or programmatic information and analysis that may be relevant to prospective options for the AFCD concept, including existing non-proprietary technology development programs, plans, and schedules.

TVA Responsibilities

TVA will provide accurate, relevant and timely information to support the DOE decision-making process related to advanced fuel cycle utilization in the U.S.

V. Terms of Agreement

Information Sharing

The sharing of information between DOE and TVA will be consistent with each party's legal obligations. Both parties recognize the need to protect from public disclosure data and information exchanged between them that fall within the definition of trade secrets, privileged, confidential commercial or financial information, or other information exempt from public disclosure under the Atomic Energy Act of 1954, as amended, the Freedom of Information Act, as amended, or other applicable laws.

If one party provides the other with non-public information, it must be properly marked as such. The recipient party will not release the information outside the agency without the written consent of the other agency. Freedom of Information Act requests, Congressional requests, or other requests for documents will be referred to the party that provided the non-public information for resolution and to obtain their nonbinding view of the ability to release the documents.

Funding and Authorizations

DOE enters into this MOU under the authority of Section 646 of the Department of Energy Organization Act (P.L. No. 95-91, as amended; 42 U.S.C. 7256). The Tennessee Valley Authority Act (16 U.S.C. 831 et seq., as amended) established the TVA as an agency of the federal government with the authority, among other things, to generate, use and sell electric energy and conduct studies and experiments to promote wider and better use of electric power. The working relationship of the Participants under this MOU will be consistent with all relevant statutory authority.

This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes, nor is intended to obligate, either entity to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value, or enter into any contract, assistance agreement, interagency

agreement, or other financial obligation. All activities pursuant to this MOU are subject to the availability of appropriated funds and each agency's budget priorities.

This MOU is strictly for DOE and TVA internal management purposes. This MOU is not legally enforceable and shall not be construed to create any legal obligation on the part of either party. This MOU shall not be construed to provide a private right of action for or by any person or entity.

This agreement in no way restricts either of the parties from participating in any activity with other public or private agencies, organizations, entities or individuals.

All agreements herein are subject to, and will be carried out in compliance with, all applicable laws, regulations and other legal requirements.

Goods or services shall be provided under this MOU only after an appropriate IA has been signed by a representative of each party authorized to execute the IA. On signature by authorized Contracting Officers at TVA and DOE, the IA shall constitute a valid Economy Act order.

Agreement Amendment, Modification, and Termination Period

This MOU may be modified or amended only by written, mutual agreement of the Participants. All modifications and amendments will also be incorporated into the IA, as appropriate.

This MOU shall be effective on the date of signature, and shall remain in effect until its termination. Either party may terminate this MOU by providing written notice to the other party. The termination shall be effective on the thirtieth (30th) calendar day following notice, unless a later date is set forth.

VI. Points of Contact

DOE and TVA assign the following senior managers as the key points of contact for this MOU. The senior managers are DOE's and TVA's official representatives and are authorized to act on the parties' behalf. Each Participant may change its respective representative by written notice to the other Participant.

DOE's Representative

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TVA's Representative
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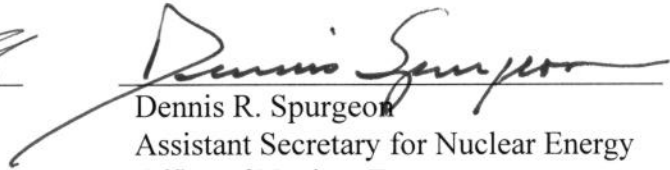
TVA's Alternate

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AGREEMENT



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April 21, 2008
Date

April 18, 2008
Date