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NRC, DOE SIGN MOU ON POSSIBLE FUTURE PRODUCTION
OF TRITIUM IN NRC-LICENSED FACILITIES

The Nuclear Regulatory Commission and the Department of Energy have entered into a Memorandum of Understanding concerning DOE's possible future use of NRC-regulated facilities to produce tritium for nuclear weapons.

The agreement establishes a basis for NRC review and consultation on DOE's possible purchase of commercial reactors, or of irradiation services from commercial reactors, for this purpose. As an alternative, DOE is also considering building a new accelerator facility to produce tritium. Preliminary activities under the agreement include NRC assistance to DOE in assessing and resolving technical issues to support a DOE decision within three years on the methods for tritium production.

Production of tritium in commercial reactors would likely require licensing actions by NRC, including safety analyses and environmental reviews. It would also require DOE and NRC to develop mechanisms to ensure that DOE national defense production requirements would not impair NRC's regulatory authority to shut down any utilized reactor for safety reasons.

Other details of the agreement, including matters expressly outside its scope, are provided in the attached copy.

Signers of the recent agreement were NRC Chairman Shirley A. Jackson and Energy Secretary Hazel R. O'Leary.

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**MEMORANDUM OF UNDERSTANDING BETWEEN THE NUCLEAR
REGULATORY COMMISSION AND THE DEPARTMENT OF ENERGY**

I. Introduction

The Department of Energy (DOE) and the Nuclear Regulatory Commission (NRC), in recognition of a mutual commitment to the effective and efficient protection of the public health and safety and the environment, have developed this Memorandum of Understanding (hereinafter referred to as agreement) in order to establish a basic framework within which DOE and NRC will endeavor to resolve issues of concern to either agency that relate to the regulation of nuclear facilities, projects, and activities, involved in the production of tritium, as described in this agreement.

Tritium, an essential material in U.S. nuclear weapons, decays at a rate of approximately five percent per year (a 12.3-year half-life). The U.S. is not currently producing tritium. Resumption of tritium production will be essential for maintaining the U.S. nuclear weapons stockpile and the U.S. nuclear deterrent.

DOE distributed its "Tritium Supply and Recycling Programmatic Environmental Impact Statement" in October 1995 in which it announced its preferred "dual path" strategy for acquiring a new supply of tritium. That strategy is to begin work on two production alternatives: (1) to procure an option or options to purchase or lease existing commercial light-water reactors (CLWRs) or procure CLWR irradiation services for tritium production and (2) to design, build, and test critical components of an accelerator-produced tritium (APT) system for tritium production. A decision to implement the DOE's preferred dual path strategy for tritium production, based upon the Programmatic Environmental Impact Statement and related cost, schedule, and technical analyses, was announced in a Record of Decision issued on December 5, 1995.

During the next three years, DOE will be undertaking the research and analyses necessary to provide the technical, economic, and regulatory bases for the selection of the primary and backup technology approaches by 1998. However, regardless of whether the commercial reactor option is selected as the primary approach for tritium production, DOE intends to complete confirmatory testing, fabricate the first core load of targets, and develop a new extraction capability as a contingency to meet national defense requirements.

The production of tritium in CLWRs presents a range of technical, regulatory, and policy issues. DOE is pursuing resolution of many of the technical issues in its design and testing of a target assembly for tritium production. The use of this target in CLWRs for tritium production will likely require NRC's approval. Issues concerning the NRC's licensing and related regulatory authority over DOE and its contractors must be addressed if DOE opts to purchase an existing or a partially completed commercial reactor. Selection by DOE of this option, or of other options, may require amendment of the Atomic Energy Act of 1954 and the implementing NRC regulations.

The use of existing CLWRs is subject to an additional set of issues concerning the use of civilian commercial reactors for purposes that support military requirements. The manner in which these concerns are resolved and a final determination on the mode of tritium production chosen will not involve NRC technical or policy review and is not a subject of this agreement. Commercial arrangements with prospective CLWRs are also not a subject of this agreement. National strategic policy considerations may involve matters beyond the scope of this agreement; nothing in this agreement is intended to preclude such considerations. Matters beyond the scope of this agreement that affect the NRC will require the Commission's approval.

II. Authority

Section 91 of the Atomic Energy Act of 1954, as amended, Sections 102(g) and 104(d) of the Energy Reorganization Act of 1974, and Section 301 (a) of the Department of Energy Organization Act of 1977, authorize DOE to engage in the development of atomic weapons and the production of nuclear materials needed for such weapons. Sections 53, 57, 63, 81, 103, 104, and 161b. of the Atomic Energy Act of 1954, as amended, authorize NRC to regulate by rules, orders, standards, and instructions any persons possessing and using production or utilization facilities, special nuclear material, source material, and byproduct material for the purpose of promoting the common defense and security and protecting health or minimizing danger to life or property. The DOE-NRC Memorandum of Understanding of February 24, 1978, establishes an overall management policy with regard to interagency relationships in the conduct of research programs and related areas and includes within its scope those guidelines governing DOE work performed by NRC. This agreement is entered into pursuant to these and other applicable authorities, including the Economy Act of 1932.

III. Purpose

The purpose of this agreement is to establish the basis for review and consultation by NRC with respect to DOE's possible acquisition of CLWRs, or acquisition of irradiation services from CLWRs, for the production of tritium.

IV. Agreements Between the Parties

A. General

1. NRC and DOE will promote the timely and orderly completion of projects undertaken pursuant to this memorandum with due regard for the public health and safety, protection of the environment, and the common defense and security. Essential to this timely and orderly completion is a relationship between the agencies marked by open and candid communications at all levels and prompt resolution of any issues that may arise.

2. NRC agrees to use available DOE information and reports and to comply with DOE administrative requirements for handling such information to the maximum extent practicable. DOE will, however, provide NRC such additional information as NRC may require to identify issues related to the public health and safety and protection of the environment that may be presented by the project. Project information or reports submitted under this agreement by DOE to NRC for review, comments provided by NRC to DOE in response thereto, and other information that is part of the official record generally shall be available for public inspection, with exceptions as specified in NRC regulations.

3. NRC and DOE recognize the importance of providing timely and accurate information to the public regarding projects, activities, and regulatory decisions that may affect the public health and safety and protection of the environment. Meetings between NRC and DOE staff in connection with project activities that pertain to specific regulatory decisions or actions shall be governed by the NRC's policy on open meetings (59 FR 48340; September 20, 1994).

4. Each agency also recognizes that it will be responsible for the safeguarding, control of, and accounting for classified, proprietary, and procurement-sensitive information used or otherwise furnished in connection with projects in accordance with its established procedures.

5. Committees such as the Advisory Committee on Reactor Safeguards and the Advisory Committee on Nuclear Waste for NRC and the Defense Nuclear Facilities Safety Board for DOE provide independent review of their respective agency's facilities, safety studies, and related matters. If necessary, NRC and DOE agree to support these independent reviews by providing information or briefings related to their respective areas of responsibilities.

6. The principal senior management contacts for this agreement will be the Director, Division of Reactor Program Management, Office of Nuclear Reactor Regulation, NRC, and the Director of the Commercial Light Water Reactors Project, DOE. These individuals may designate appropriate staff representatives for the purpose of administering this agreement. Identification of these contacts is not intended to restrict communication between DOE and NRC staff members on routine technical consultation and other day-to-day activities.

B. Planning and Reimbursement of Costs

1. NRC and DOE will cooperate in long-range planning so as to ensure that both agencies anticipate the magnitude of funding, the allocation of resources, and the timing of events necessary to conduct interagency projects. Consultations and information exchanges between NRC and DOE on long-range planning activities and other normal functions are generally not subject to reimbursement.

2. Specific project activities in which DOE requests that NRC review, consult on, or comment upon to identify issues related to public health and safety, occupational safety, and protection of the environment are generally subject to reimbursement at full agency costs from DOE in accordance with established NRC regulations, policies, and procedures on reimbursement for work performed for other Federal agencies.

3. The details of the levels of support to be furnished to one organization by the other with respect to funding will be developed in specific interagency agreements or other agreements, subject to the availability of funds. This agreement shall not be used to obligate or commit funds or as the basis for the transfer of funds. DOE and NRC will provide each other mutual support in budget justification to the Office of Management and Budget and hearings before the Congress with respect to programs on which the organizations collaborate.

C. Preliminary Phase Activities

1. NRC will assist DOE in assessing and resolving technical and licensing issues (including physical security, security clearance, and environmental issues) in order to support a Secretarial decision on the primary and backup tritium production approaches within three years.

2. The production of tritium under an existing commercial license will require DOE and NRC to develop mechanisms to ensure that national defense production requirements will not affect the regulation, including plant shutdown for safety reasons, of the facilities.

3. NRC and DOE will work together to develop a reimbursable agreement for the full agency cost for NRC to conduct this work in accordance with NRC administrative procedures. Reimbursement will be required to the extent that such resources are not appropriated to the NRC for this work. Additionally, a project level schedule will be jointly developed to implement required preapplication phase activities.

D. Target Topical Report Phase Activities

1. As the project continues and more precise information is developed, DOE may submit for the NRC staff's review and approval a topical report describing detailed technical and licensing requirements for the use of a target tritium production assembly in a CLWR. A revised or new reimbursable agreement, as well as a project level schedule, will be jointly developed at that time. Reimbursement will be required to the extent that such resources are not appropriated to the NRC for this work.

2. DOE acknowledges that the NRC staff's approval of any topical report is not binding on an Atomic Safety and Licensing Board or the Commission in the event any aspect of the topical report is challenged in an administrative adjudication.

E. Acquisition Phase Activities

Tritium production in CLWRs is likely to require licensing action by NRC, including safety analysis and environmental review. As specific options are chosen, NRC and DOE will cooperate in planning and completing these activities in accordance with applicable licensing procedures.

V. **Other Provisions**

1. Nothing in this agreement shall limit the authority of either agency to independently exercise its authority with regard to matters that are the subject of this agreement.

2. Nothing in this agreement shall be deemed to establish any right or provide a basis for any action, either legal or equitable, by any person or class of persons challenging a Government action or a failure to act.

3. This agreement shall be effective upon signature of both parties and will remain in effect until terminated by mutual agreement or by the written notice of either party submitted six months in advance of termination. Amendments or modifications to this agreement may be made upon the written agreement of the parties.

DOE Approved:

NRC Approved:

Hazel R. O'Leary
Secretary
Department of Energy

Shirley A. Jackson
Chairman
U.S. Nuclear Regulatory Commission

5/22/96
Date

May 22, 1996
Date