



The University of Michigan

MICHIGAN MEMORIAL – PHOENIX PROJECT
PHOENIX MEMORIAL LABORATORY FORD NUCLEAR REACTOR
ANN ARBOR, MICHIGAN 48109-2100

28 March 2005

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Docket 50-2, License R-28

Subject: Ford Nuclear Reactor License Amendment; *Receipt, Possession and Use of Byproduct, Source and Special Nuclear Materials*

The University of Michigan, Ford Nuclear Reactor requesting that the license for the Ford Nuclear Reactor be amended to allow for the receipt, possession and use of byproduct, source and special nuclear materials for the maintenance, characterization, and decommissioning of the Ford Nuclear Reactor by adding the following two conditions.

2.B(4) Pursuant to the Act and 10 CFR Part 30, 40 and 70, to receive, possess and use byproduct, source or special nuclear material in the form of activated or contaminated instruments or articles as needed for the maintenance, characterization and decommissioning of the reactor.

2.B(5) Pursuant to the Act and 10 CFR Part 30, 40, and 70, to receive, possess and use any byproduct materials, up to a maximum of 100 grams of source material as uranium and thorium, and up to a maximum of 100 milli-grams total special nuclear material as uranium-233, uranium-235, and plutonium or any combination thereof without restriction to chemical or physical form, for instrument calibration, instrument testing, or instrument checks necessary for maintenance, characterization and decommissioning of the reactor.

The purpose of condition 2.B(4) is to allow the Ford Nuclear Reactor to receive contaminated or activated equipment from other licensees (such as pumps, shielding materials, scabbling equipment, tools, shipping casks, etc.). This change will prevent waste shipping and decommissioning activities (which will involve the receipt of contaminated specialized equipment) from being performed under other University licenses.

The purpose of condition 2.B(5) is to ensure that byproduct, source or special nuclear materials necessary for instrument calibration, instrument testing, or instrument checks performed in support of maintenance, characterization or decommissioning of the reactor are completely covered under the reactor license, vice the other licenses held by the University.

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Licensing guidance for this amendment is contained in NUREG-1537 (1996) *Guidelines for Preparing and Review Applications of the Licensing of Non-Power Reactors*. Specific guidance on the possession and use of byproduct, source and special nuclear material is contained in Section 9.5, *Possession and Use of Byproduct, Source and Special Nuclear Material*, which states:

The 10 CFR Part 50 Operating license applies to possession and operation of the reactor, possession and use of byproduct material produced by the operation of the reactor, and, to the extent authorized, the receipt, possession, and use of other byproduct source, or special nuclear material (material) needed for operation of the reactor and its experimental programs. Examples include sources for radiation monitor calibration, depleted uranium for shielding of experiments, reactor fuel, fission plates for thermal columns, and fission chambers for reactor monitoring and control.

The NRC regulatory approach is to include in the reactor license all material that is produced by the reactor or is required to directly operate the reactor and its associated experimental facilities. Other material at a non-power reactor facility is authorized by an NRC byproduct, source or special nuclear materials license. If the facility is located in an Agreement State, and Agreement State license may also exist. This other material is normally not required to operate the reactor or associated experimental facilities. A special case exists for material that is received for irradiation from another licensee. If this material is to be placed into the reactor within 31 days of receipt, it may be possessed under the reactor license. However, this authorization for receipt and possession must be specifically stated in the reactor license. If more than 31 days should pass before the material is placed in the reactor, it should be included in an NRC or Agreement State Materials license until irradiation occurs. Further information on this subject may be found in memoranda dated March 8 and August 18, 1988, from Dennis M. Crutchfield, Director, Division of Reactor Projects - III, IV, V and Special Projects, to NRC regional administrators.

... A broad view of materials and areas authorized by the 10 CFR 50 reactor license avoids maintaining multiple licenses and allows, in some cases, indemnity protection for materials in laboratories and other auxiliary spaces....

The byproduct, source or special nuclear materials under these proposed license conditions would be received, handled, stored and shipped as described under the license renewal submitted in 1987, applicable revisions since that submission, and as described in the decommissioning plan submitted to the Commission in 2004. The quantities of special nuclear material have been limited to be less than the 15 gram level to stay below the additional requirements of 10 CFR Part 70, 73, and Part 74.

If there are any questions regarding this information, please feel free to contact Christopher W. Becker at (734) 764-6224.

I declare under penalty of perjury that the foregoing is true and correct.

Signature: _____

Steven C. Ceccio, Ph.D.
Director, Michigan Memorial Phoenix Project

Executed on: _____

3/30/05

Cc: Patrick Isaac

File: Correspondence 05-003

License Amendment - Radioactive Materials

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