50-20

JAN 09 1990

MEMORANDUM FOR: Commissioner Rogers

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: STAFF VIEWS ON CONCERNS RAISED BY MIT

This is in response to your memorandum of April 14, 1989, which unfortunately did not get routed for action. The staff has reviewed the concerns of the Massachusetts Institute of Technology (MIT) that were expressed in a letter you received during your visit to MIT. The staff's comments are numbered to match MIT's concerns:

1. Procurement of Clean Heavy Water: The Defense Programs Office of the Department of Energy (DOE-DP) instituted a ban on shipment of heavy water to non-government facilities. This ban is the result of continuing problems at the Savannah River plant. The DOE Division of University and Industrial Programs (DOE-UP) has explored with no success the possibility of procuring clean heavy water from Canada in exchange for contaminated heavy water. The DOE-UP budget does not contain the necessary funds ($500,000) to acquire the heavy water MIT requested on the open market. DOE-UP continues to work on this problem, but no solution is anticipated in the near future. The MIT reactor uses heavy water as a reflector. MIT is currently performing preventive maintenance on its reflector cooling system to reduce the possibility of a coolant leak that could release tritium into the containment building. The reflector heavy water system contains approximately 3 curies of tritium per liter. The total system inventory is approximately 16,000 curies. The staff believes that this situation does not present undue risk to the health and safety of the public. The MIT emergency plan addresses facility response to loss of heavy water.

2. Central Plutonium Collection Facility: Many universities have some special nuclear material (SNM) or source material that is not needed to support the current operation of their facilities. Although it is true that there are costs involved in the storage and safeguarding of this material, these costs represent a small part of the total cost of the accountability program of the university. Although the majority of this material is not owned by DOE and DOE has no obligation to accept it, DOE is actively developing plans to collect this material. DOE has requested funding in next year's budget to implement the program. MIT has recently returned a portion of its unwanted SNM to DOE. The staff believes that DOE is responding to this problem and that Commission action is not needed.

3. Shipment of Spent Fuel: There are problems concerning the shipment of spent fuel from MIT and the University of Missouri at Columbia (MURR). The only shipping cask certified to transport the type of fuel used in these reactors has been withdrawn from use by its owner, the General

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Electric Company, for economic reasons. MURR anticipates submitting an application in January 1990 to the NRC to amend the BMI-1 cask license to add MURR and possibly MIT fuel. To allow continued operation, NRC has amended the MIT operating license authorizing increased fuel possession limits. MURR will require an increase in its fuel possession limit in May 1990. MIT will exhaust fuel storage space in 1995 and MURR in December 1990. MIT's statement that NRC refuses to license casks for the shipment of spent fuel is not accurate. The NRC reviews and approves the design of spent fuel shipping casks. To obtain NRC approval of a shipping cask, an applicant must submit a safety analysis report that shows that the cask meets the requirements of 10 CFR Part 71. A cask design that meets these requirements is issued an NRC Certificate of Compliance. After a design has been approved, any number of casks of that design can be fabricated and used. The staff will continue to monitor this situation.

4. NRC Regionalization: As you are aware, problems cited by MIT with non-power reactor (NPR) regulation and inspection were addressed by the Commission decision that the Non-Power Reactor, Decommissioning, and Environmental Project Directorate (PDNPRDE) will participate significantly in the NPR inspection program and take a strong leadership role in all matters affecting NPRs.

5a. NPR Inspectors: This concern is addressed in Item 4.

5b. Availability of Operator Licensing Examinations: Because of the limited resources available to meet all licensing requests, it is not possible to schedule more than one trip per year to administer operator licensing examinations for NPRs. In some cases, the NRC has been able to accommodate additional examination requests from licensees of NPRs. This support will continue on a specific case basis according to competing needs at the time of such a request.

5c. Limiting Corrective Actions: This comment refers to a unique situation that applied only to Cintichem. Cintichem representatives and the NRC staff agreed on a procedure to allow NRC inspectors access to the facility. This access was required because Cintichem produces isotopes from separated fission products on a 24-hour-a-day schedule. The staff carefully analyzes the need for generic action at NPRs and limits action only to those facilities directly affected by a particular issue. The success of this procedure is reflected in the small number of generic communications issued exclusively for NPRs (the average is less than one per year).

5d. Region I Monthly Phone Calls: The Region I monthly phone call program to NPR licensees that has been conducted since April 1989 is proving successful. These calls have not been used as an opportunity to regulate but rather to exchange information, thus increasing understanding for the parties involved.

5e. Information About NRC: The current NRC telephone directory and NRC organizational structure charts are provided to the Organization of Test, Research, and Training Reactors (TRTR). In addition, information on the NRC organizational structure is provided as part of PDNPRDE's presentation at the annual TRTR meeting.

5f. Issuance of Operator License Certificates at License Renewal: The certificate is not the license but, as intended, an attractive visual acknowledgement of accomplishment for each candidate regarding the meeting of the rigorous requirements necessary for licensing by the NRC. Renewal does not change the status of the license or the certificate, nor is there a time dimension to the certificate. Therefore, reissuing the certificate would not serve any purpose. Candidates who upgrade their status from operator to senior operator are issued new certificates as a result of the change in status. The cost and difficulty of tracking and issuing a renewal certificate are outside the bounds of the budget.

6. NRC Knowledge of University Research: The NRC NPR project managers are generally aware of the research that is in progress at their facilities. Information received by the MIT project manager on MIT's work on reactor control is provided to the NRR Instrumentation and Control System Branch to enhance awareness of current research. MIT hosted a visit at its facility for Region I staff to present the reactor and research programs in a non-inspection environment. This event was well attended and enhanced Region I's understanding of the MIT facility.

7. Over-regulation: The staff's general response to over-regulation is addressed in Item 4. MIT expressed concerns about our requirement for copyright release on submittals to be reproduced and placed in the public document room. The particular article submitted by MIT was written by employees of EG&G Idaho and appeared in Nuclear Technology which is copyrighted by the American Nuclear Society. This requirement for release is pursuant to NRC policy and copyright law.

Concerning NRC-administered requalification examinations as examples of over-regulation, a letter from Chairman Carr to Mr. A. Francis DiMeglio, Chairman of TRTR, addressed this issue as follows: "It is recognized that the TRTR community has special needs and characteristics, and the staff has developed a proposal that incorporates the uniqueness of NPRs while still meeting regulatory requirements established in 10 CFR Part 55. In addition, the staff is in the process of centralizing the NPR operator function to provide a unified and knowledgeable corps of examiners.

"The staff's plan for proceeding with requalification programs at NPR facilities was discussed at your recent TRTR meeting. A key factor in determining the extent and applicability of the NRC's requalification examination process is the relative risk to the public posed by NPRs. The staff's approach to NPR requalification examinations will parallel the inspection program in this regard. If subsequent evaluations reveal a significantly lower level of risk associated with NPR operations, then both the inspection and the operator licensing programs will be appropriately modified. The Commission's goal is to ensure that NPR requalification programs are performance based and effective in maintaining the level of operator skills and knowledge, particularly as they apply to areas pertinent to the protection of the public health and safety. The staff will provide the TRTR community the opportunity to participate in the NPR requalification program development through pilot tests that will be

conducted in 1990. An opportunity such as this was provided to the licensees of nuclear power reactors, and the licensees found that participation worked well. The NRC is committed to conducting the NPR requalification program, but recognizes that it must be executed such that the fiscal and operational burden on NPRs is minimal. This necessity underscores the importance of your participating with the staff in developing the program through the pilot tests."

Additional Comments: MIT is an above-average NPR licensee that has a very good performance record and an ambitious research program in areas such as reactor control and PWR and BWR primary loop corrosion. The staff believes that it has been responsive in its dealings with and in addressing the concerns of the NPR community and MIT.

Original Signed By:
James M. Taylor
James M. Taylor
Executive Director
for Operations

cc: Chairman Carr
Commissioner Roberts
Commissioner Curtiss
Commissioner Remick
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Central File

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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12/22/89	12/22/89	12/22/89	12/22/89	12/26/89	12/26/89

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ADP:NRR	NRR:DONRR	GPA/CA	OGC	EDO
JPartlow	TMurley			JTaylor
12/27/89	12/ /89	12/ /89	12/ /89	12/ /89

Good Job. 12/27

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

EDO Principal Correspondence Control

ACTION

FROM:

DUE: 12/~~22~~29/89

12/27

EDO CONTROL: 0004985
DOC DT: 04/14/89
FINAL REPLY:

Weiss

Commissioner Rogers

TO:

Victor Stello, Jr.

FOR SIGNATURE OF: ** PRI **

CRC NO:

Executive Director

DESC:

REQUEST VIEWS ON PAPER FROM JOHN A. BERNARD AND OTTO K. HARLING, MIT, ON ISSUES RE UNIVERSITY RESEARCH REACTORS

DATE: 12/13/89

ROUTING:

Taylor
Thompson
Blaha
Beckjord, RES
Bernero, NMSS
Russell, RI
Amenta, IRM

ASSIGNED TO: NRR CONTACT: Murley

SPECIAL INSTRUCTIONS OR REMARKS:
MEMO WAS NOT RECEIVED IN EDO UNTIL 12/12/89.

NRR RECEIVED: DECEMBER 13, 1989
ACTION: DRSP:HOLAHAN

NRR ROUTING: MURLEY/SNIEZEK
PARTLOW
MIRAGLIA
CRUTCHFIELD
GILLESPIE
MOSSBURG