

July 3, 2007

Dr. Mohamad Al-Sheikhly, Director  
Radiation Facilities and Nuclear Reactor  
Department of Materials Science and Engineering  
2309D Chemical and Nuclear Engineering Building  
Building 090, Stadium Drive  
The University of Maryland  
College Park, MD 20742-2115

SUBJECT: NRC ROUTINE, ANNOUNCED INSPECTION REPORT NO. 50-166/2007-201

Dear Dr. Al-Sheikhly:

This letter refers to the inspection conducted on June 11-15, 2007, at your research reactor facility. The inspection included a review of activities authorized for your facility. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations of activities in progress. Based on the results of this inspection, no safety concerns or noncompliance with NRC requirements were identified. However, one inspector follow-up item was identified which will be revisited in a future inspection. No response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Marcus H. Voth at 301-415-1210.

Sincerely,

/RA/

Johnny H. Eads, Branch Chief  
Research and Test Reactors Branch B  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

Docket No. 50-166  
License No. R-70

Enclosure: NRC Inspection Report No. 50-166/2007-201  
cc w/enclosure: See next page

University of Maryland

Docket No. 50-166

cc:

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Energy & Coastal Zone Administration  
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Test, Research, and Training  
Reactor Newsletter  
University of Florida  
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DATE	7/2/2007	7/2/2007	7/3/2007

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**U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION**

Docket No: 50-166

License No: R-70

Report No: 50-166/2007-201

Licensee: University of Maryland

Facility: Maryland University Training Reactor

Location: College Park, Maryland

Dates: June 11-15, 2007

Inspector: Marcus H. Voth

Approved by: Johnny H. Eads, Branch Chief  
Research and Test Reactors Branch B  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

## EXECUTIVE SUMMARY

### Maryland University Training Reactor NRC Inspection Report No. 50-166/2007-201

The primary focus of this routine, announced inspection was the on-site review of selected aspects and activities since the last NRC inspection of the licensee's Class II non-power reactor safety programs including: organization and staffing, operations logs and records, procedures, health physics, design changes, committees, audits and reviews, maintenance logs and records, transportation and follow-up of previously identified items.

The licensee's programs were acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements.

#### Organization and Staffing

- The reactor organization and staffing were consistent with Technical Specification requirements.

#### Operations Logs and Records

- Operational activities were found to be consistent with applicable Technical Specification and procedural requirements but improved documentation is needed.
- An Inspector Follow-up Item was opened:
  - Improved documentation of Technical Specification compliance

#### Procedures

- Procedural control and implementation satisfied Technical Specification requirements.

#### Health Physics

- The inspector determined that the licensee's radiation protection program met applicable regulatory and Technical Specification requirements.

#### Design Changes

- The licensee demonstrated effective implementation of a design change process procedure in conformance with regulations.

#### Committees, Audits and Reviews

- Review and oversight functions of the Reactor Safety Committee appear to meet Technical Specification requirements but written documentation requires improvement to reach this conclusion without verbal augmentation.

Maintenance Logs and Records

- The licensee kept a maintenance log to record major maintenance activities not otherwise included in the reactor operations logs.

Transportation

- The licensee did not make any radioactive material shipments under the reactor license during the past two years.

Follow-up of Previously Identified Items

- An Inspector Follow-up Item was closed:
  - Follow-up to verify that the licensee conducts intermittent surveys in the reactor bay
- An Inspector Follow-up Item and an Un-Resolved Item were discussed but remain open:
  - Follow-up to verify that the licensee reviews the Memorandum of Understanding with the Prince Georges County Fire Department
  - Failure to conduct visual inspections of the control rods in accordance with Technical Specification requirements

## REPORT DETAILS

### Summary of Plant Status

The licensee's research reactor, licensed to operate at a maximum steady-state thermal power of 250 kilowatts, continues to be operated in support of academic classes, educational demonstrations, operator training, surveillance, and experiments. During the inspection the inspector observed the reactor being started up, operated to perform surveillance tests, and shut down.

### 1. Organization and Staffing

#### a. Inspection Scope (Inspection Procedure [IP] 69001)

The inspector reviewed the following to verify compliance with the staffing requirements in Technical Specifications (TS) Section 6.1 Organization:

- organization diagram
- qualifications of key personnel
- NRC-issued Senior Reactor Operator (SRO) and Reactor Operator (RO) licenses
- Reactor Console Logbook, March 15, 2006 to present

#### b. Observations and Findings

The Maryland University Training Reactor (MUTR) organizational structure and the responsibilities of the reactor management and staff had not changed since the last inspection (see NRC Inspection Report No. 50-166/2006-201). Current licensed staff consisted of the Facility Director (FD) and the Facility Coordinator (FC), both of whom maintain SRO licenses and two students who maintain RO licenses. Four additional students were in training for license examinations near the end of the year.

The MUTR staff's qualifications satisfied the training and experience requirements stipulated in the TS. The operations log and associated records confirmed that shift staffing met the minimum requirements for duty personnel.

TS Figure 6-1, Administrative Organization, shows reactor operations to be supported by the Radiation Safety Office. Specifically it shows three positions:

- Director, Environmental Safety Department/Radiation Safety Officer (RSO)
- Asst. Radiation Safety Officer
- Radiation Safety Office Staff

The inspector found three individuals performing the first function shown in TSs:

- Director, Department of Environmental Safety
- Deputy Director, Department of Environmental Safety
- Radiation Safety Officer

and a single individual with occasional contract help covering the two latter positions. The inspector found that despite the reduced staffing in the Radiation Safety Office, which provided the oversight required by multiple university licenses, activities conducted under the reactor license continued to receive

adequate radiation safety support. The licensee had commissioned a study to assess the adequacy of campus-wide radiation safety oversight and was awaiting the final report at the time of the inspection.

c. Conclusion

The reactor organization and staffing were consistent with TS requirements.

**2. Operation Logs and Records**

a. Inspection Scope (IP 69001)

The inspector reviewed the following to ensure that selected records were maintained as required by TS Section 6.3, Review and Audit, 6.6, Reports, and 6.7, Records:

- Annual Report for the MUTR for the dates July 1, 2005 to June 30, 2006
- Facility file of Annual Reports for the MUTR and transmittal letters
- Maintenance Procedure MP 300, 10 CFR 50.59 Determination for Maintenance Activities, Rev 12 (March 27, 2000)
- Operations Procedure OP-101, Reactor Startup Checkout, Rev 12 (March 27, 2000)
- Completed Initial Reactor Startup Checklist forms for the period of time from December 5, 2006 to present
- Procedure OP-102, Reactor Shutdown Checkout, Rev 12 (March 27, 2000)
- Completed Reactor Shutdown Checklist forms for the period of time from October 27, 2006 to present
- Observation of Startup # 3865; ascension to full power; collection of air, reactor water, and floor contamination smear samples; radiation survey of the reactor area; and reactor shutdown
- Procedure and data recorded for Reactor Compartment Radiation Monitoring, April 19, May 25, and June 14, 2007
- Procedure and data recorded for Reactor Air and Water Sampling and Analysis, April 11 and May 11, and June 14, 2007
- Reactor Safety Committee Minutes for Meeting of July 14, 2004, July 15, 2004
- Reactor Safety Committee Minutes for Meeting of December 9, 2004, December 9, 2004
- Reactor Safety Committee Minutes for Meeting of June 22, 2006, June 23, 2006
- Reactor Safety Committee Minutes for Meeting of November 19, 2006, November 21, 2006
- Reactor Console Logbook for the period March 15, 2006 to present

b. Observations and Findings

Reactor operations were carried out following written procedures and TS requirements. A review of the logs and records indicated that TS operational limits had not been exceeded. The inspector determined that reactor operations



were carried out following written procedures. There were a total of 41 reactor startups logged during calendar year 2006.

Scrams that occurred during reactor operations were recorded in the reactor logbook in red pen. Four scrams had occurred during the inspection period, two due to loss of commercial electrical power and two due to period scrams during reactor power increases.

The 2006 Annual Report summarized the required information and was issued in accordance with TS Section 6.6.1. No special reports were submitted pursuant to TS Sections 6.6.2 or 6.6.3.

A number of situations were identified throughout the inspection where documentation did not convince the inspector of full compliance with the TS; however, verbal discussion indicated a deficiency in documentation rather than compliance. An inspector follow-up item was created to track the following areas for adequate documentation of TS compliance:

- Radiation Safety Committee (RSC) minutes did not clearly record action taken at meetings. RSC records did not clearly indicate that members were appointed to the RSC in compliance with TS 6.2.1 requirements and that the required audit activities delineated in TS 6.2.4 (2) were included in audits. Additional detail on this issue can be found in Section 6 of this report.
  - The annual reactor facility As Low As Reasonably Achievable (ALARA) Program audit required by TS 6.2.5 was addressed as a summary statement in the annual reports of the Radiation Safety Program; the inspector did not consider the statement to be evidence that an ALARA Program audit had been performed and the results presented at an RSC meeting as required by TS 6.2.5. Additional detail on this issue can be found in Section 4 of this report.
  - Annual Reports were prepared in accordance with TS 6.6.1 and put on file but were apparently not sent to the NRC as required.
  - Procedure MP 300, 10 CFR 50.59 Determination for Maintenance Activities, contained an apparent error that could result in the inadvertent failure to perform a safety review.
  - SNM inventory reports were prepared and filed but not in the form consistent with the official national (electronic) record keeping system.
- These issues will be reviewed in a subsequent inspection and tracked as Inspector Follow-up Item No. 50-166/2007-201-01 IFI.

c. Conclusions

Operational activities were found to be consistent with applicable TS and procedural requirements but improved documentation is needed.

**3. Procedures**

a. Inspection Scope (IP 69001)

The inspector reviewed the following to ensure that the requirements of TS Section 6.3 were being met concerning written procedures:

- Surveillance Procedure 200, Instrument Calibration and Maintenance Schedule, Rev 12 (March 27, 2000)
- Surveillance Procedure 202, Reactor Power Calibration, Rev 12 (March 27, 2000)
- Surveillance Procedure 206, Pool Water Conductivity Determination, Rev 12 (March 27, 2000)
- Surveillance Procedure 209, Procedure for Control and Accounting for SNM at the MUTR, Rev 12 (March 27, 2000)
- Maintenance Procedure 300, 10 CFR 50.59 Determination for Maintenance Activities, Rev 12 (March 27, 2000)
- Maintenance Procedure 301, Dismantling and Re-assembling Fuel Bundle, Rev 12 (March 27, 2000)
- Maintenance Procedure 303, Fuel Movement, Rev 12 (March 27, 2000)
- File 16.1, Control Rod Calibration and Shutdown Margin, performed September 22, 2006
- File 16.2, Power Calibration, performed annually 2001 through 2006

b. Observations and Findings

The inspector verified by review of a random selection of written procedures that they addressed activities delineated in TS Section 6.3, were approved by the RSC, and were of acceptable clarity and detail. Provisions existed for making temporary changes to the procedures that did not change their original intent per TS 6.3; this provision had not been used since the previous inspection.

The inspector noted that in recent years the reactor power calibration procedure was documented with a computer-generated data sheet that did not include the signature lines for review and approval as in the original data sheet. As a result, on occasion one or both signatures were omitted from the data sheet on file. The licensee processed a procedural change before the end of the inspection, restoring the signature lines.

c. Conclusions

Procedural control and implementation satisfied TS requirements.

**4. Health Physics**

a. Inspection Scope (IP 69001)

The inspector reviewed the following to verify compliance with 10 CFR Part 19 and Part 20 and the applicable TS requirements:

- Radiation Safety Manual - University of Maryland, August 16, 2001
- Radiation Safety Office Departmental Procedure #001, Instrument Calibration, October 2003
- Radiation Safety Office Departmental Procedure #002, Water Sampling, November 3, 2003
- Radiation Safety Office Departmental Procedure #004, Air Sampling, November 3, 2003

- Radiation Safety Office Departmental Procedure #016, Pregnant Workers in a Radiation Environment
- 2004 Audit of the University of Maryland Radiation Protection Program
- 2005 Audit of the University of Maryland Radiation Protection Program
- Occupancy Radiation Exposure Reports for Reactor Fixed Monitors and Personnel for 2006
- Occupancy Radiation Exposure Reports for Reactor Fixed Monitors and Personnel for 2007
- radiological signs and posting
- Global Dosimetry Solutions Environmental Report, February 26, 2007
- Global Dosimetry Solutions Environmental Report, May 17, 2007
- University of Maryland Radiation Facilities Visitor Log, dated from January 2004 to present
- calibration data on radiation monitoring equipment

b. Observations and Findings

The RSO administered a campus-wide radiation protection program which included activities conducted under the reactor license. A written description of the Radiation Protection Program as well as implementing procedures were reviewed.

During the inspection the inspector observed radiation monitoring performed in the reactor room. This procedure was newly initiated since the previous inspection, closing out an inspector follow-up item also discussed in Section 9 of this report. Data gathered in monthly surveys indicated that throughout the year there were no unexpectedly high radiation levels present. Likewise, radiation worker dosimetry monitoring indicated that doses were near background levels. Visitors to the reactor signed a logbook and were issued self-reading dosimeters. The inspector reviewed the log and found that no significant radiation doses were measured.

The inspector also reviewed results of the environmental monitoring program. The reactor facility was monitored with six "close-in dosimeters." Beyond that were seven "campus monitors." Results available for the two periods of time prior to the inspection indicated approximately 30 millirem per quarter on both the close-in and the more distant monitors. This was approximately the background radiation level. The licensee calculated the maximum potential production of Ar-41 in the reactor using the Environmental Protection Agency computational code "COMPLY," which showed that the licensee was in Level 2 compliance with 10 CFR 20.1301(a)(1).

The inspector verified that current versions of NRC Form 3 required by 10 CFR Part 19 were posted at the entrances to the reactor bay and the ROS's office. Areas with radiation and contamination hazards present and radioactive material storage areas were found to be properly posted. No unmarked radioactive material was found in the facility.

The calibration data on devices was noted as the inspector toured the facility. All devices observed were found to be within their calibration period.

The inspector observed that proper precautions are used to maintain radiation doses for personnel as low as reasonably achievable (ALARA). The RSO considered the 2004 and 2005 audit reports of the Radiation Protection Program to meet the requirement of TS 6.2.5 for an audit of the reactor facility ALARA Program. An external audit of the Radiation Protection Program was performed in early 2007 which is being used for the 2006 annual audit requirement; this audit report was not yet available for review. As noted in Section 2 of this report, the inspector identified as a follow-up item a need for improved documentation indicating that the audit requirements had in fact been performed.

The inspector verified that appropriate training was being administered to both radiation workers and emergency personnel with need to enter the facility; this was accomplished by reviewing the structure of the training program, training materials used, and records of training administered.

The licensee indicated that they do not support a respiratory protection program nor do they perform planned special exposures.

c. Conclusions

The inspector determined that the licensee's radiation protection program met applicable regulatory and TS requirements.

**5. Design Changes**

a. Inspection Scope (IP 69001)

In order to verify that any modifications to the facility were consistent with 10 CFR 50.59, the inspector reviewed selected aspects of:

- Proposal to Remove the Access Plug to the Thermal column, June 22, 2006
- Procedure MP 300, 10 CFR 50.59 Determination for Maintenance Activities, Rev 12 (March 27, 2000)
- Annual Report for the MUTR for the dates July 1, 2004 to June 30, 2005
- Annual Report for the MUTR for the dates July 1, 2005 to June 30, 2006
- Reactor Console Logbook for the period March 15, 2006 to present

b. Observations and Findings

Through review of applicable records and interviews with licensee personnel, the inspector verified that administrative controls were in place, requiring the appropriate review and approval of facility changes prior to implementation. Since the previous inspection the licensee performed only one evolution utilizing the facility change review process, removal of the thermal shield plug to measure dose rates inside of the thermal column in preparation for a new experiment. A safety analysis was prepared by the reactor staff and reviewed by the RSC. The inspector questioned the licensee regarding a decision block in Procedure MP 300; there was not adequate time to resolve this matter during the inspection so it was added to the inspector follow-up item in Section 2 of this report.

c. Conclusions

The licensee demonstrated effective implementation of a design change process procedure in conformance with regulations.

**6. Committees, Audits, and Reviews**

a. Inspection Scope (IP 69001)

The inspector reviewed the following to ensure that the audits and reviews stipulated in TS Section 6.2 were being completed by the RSC:

- Annual E-Drill/External Audit Results, S. Petras (Constellation Nuclear Services) to M. Al-Sheikhly (UMD), August 18, 2004
- Annual E-Drill/External Audit Results, S. Petras (Constellation Nuclear Services) to M. Al-Sheikhly (UMD), August 19, 2005
- Annual E-Drill/External Audit Results, S. Petras (Constellation Nuclear Services) to M. Al-Sheikhly (UMD), July 28, 2006
- Reactor Safety Committee Minutes for Meeting of July 14, 2004, July 15, 2004
- Reactor Safety Committee Minutes for Meeting of December 9, 2004, December 9, 2004
- Reactor Safety Committee Minutes for Meeting of June 22, 2006, June 23, 2006
- Reactor Safety Committee Minutes for Meeting of November 19, 2006, November 21, 2006

b. Observations and Findings

The inspector found that the RSC appears to be meeting all aspects of the requirements; however, written documentation does not support this conclusion without verbal input from the licensee. As a result, Inspector Follow-up Item 50-166/2007-201-01 was created as summarized in Section 2 of this report.

The RSC membership met the requirements of TS 6.2.2(1), had at least two meetings per year in compliance with TS 6.2.2(2), and had the quorum present at meetings as required by TS 6.2.2(3). While meeting minutes were maintained pursuant to TS 6.2.2(4), they failed to record all actions taken by the committee, particularly those required review functions identified in TS 6.2.3. Audits were conducted in compliance with TS 6.2.4(1) but neither the audit reports nor the meeting minutes indicated that the scope of the audit included all functions identified in TS 6.2.4(2). Likewise, meeting minutes or referenced reports in the RSC file did not provide evidence that the reactor ALARA Program was being audited with audit results being presented to the RSC in accordance with TS 6.2.5.

TS 6.2.1 requires that the Department Chairman name members to the RSC and infers that a chairman be designated. While minutes indicated names of committee members, RSC files did not contain documentation of appointments to the committee or the term of the appointment.

c. Conclusions

Review and oversight functions of the RSC appear to meet TS requirements but written documentation requires improvement to reach this conclusion without verbal augmentation.

**7. Maintenance Logs and Records**

a. Inspection Scope (IP 69001)

To verify that the licensee was complying with the applicable requirements, the inspector reviewed selected aspects of:

- Annual Report for the MUTR for the dates July 1, 2005 to June 30, 2006
- MUTR Maintenance Logbook
- Reactor Console Logbook for the period March 15, 2006 to present

b. Observations and Findings

The inspector reviewed the maintenance log and found that there were no entries for the past year. The Facility Coordinator explained that most maintenance is recorded with operations logs (see Section 2 of this report) such as the Reactor Console Log, startup and shutdown procedure log records, or surveillance records. The maintenance log is reserved for unusual or major maintenance as evidenced by the last entry which was for a control rod inspection, showing locknut locations of fuel bundles B4, C3, C7, and C8.

c. Conclusions

The licensee kept a maintenance log to record major maintenance activities not otherwise included in the reactor operations logs.

**8. Transportation**

a. Inspection Scope (IP 86740)

To verify that the licensee was complying with the applicable requirements, the inspector reviewed the following:

- [Receiver] Shipment, Memo for Record, March 16, 2007

b. Observations and Findings

The licensee stated that they generally transfer radioactive material from the reactor license to the broad scope campus license for use by experimenters on campus or for processing as waste along with other campus radioactive waste. As a result, shipments under the reactor license are unusual and infrequent. There had been no Type B shipments under the reactor license for at least the past two years. The only other shipment during this time was the above-referenced item that was irradiated in the reactor. Analysis showed that the

quantity of each isotope identified was below the exempt threshold defined by 49 CFR 173.436 and the shipment was therefore exempt.

c. Conclusions

The licensee did not make any radioactive material shipments under the reactor license during the past two years.

**9. Followup of Previously Identified Items**

a. Inspection Scope (IP 92701)

To verify that the licensee was complying with the applicable requirements, the inspector reviewed selected aspects of:

- Procedure and data recorded for Reactor Compartment Radiation Monitoring, April 19, May 25, and June 14, 2007
- Procedure and data recorded for Reactor Air and Water Sampling and Analysis, April 11 and May 11, and June 14, 2007

b. Observations and Findings

- (1) 50-166/2006-201-01 IFI - Follow-up to verify that the licensee conducts intermittent surveys in the reactor bay

In response to this IFI the licensee has begun a monthly routine of recording radiation survey instrument readings at specified locations throughout the reactor compartment, collecting and counting contamination swipe samples, and collecting and counting reactor water and air samples while the reactor is operating at full power. The inspector observed execution of the above procedures and data from recent months. This fully satisfies the concern raised by the inspector and the IFI therefore closed.

- (2) 50-166/2006-201-02 IFI - Follow-up to verify that the licensee reviews the Memorandum of Understanding with the Prince Georges County Fire Department

The licensee reported that the current Memorandum of Understanding letters remains in effect but they are being updated to reflect recent changes, including new signing officials in the university administration. Signatures are imminent but this item will remain open until the new letters are executed.

- (3) 50-166/2006-201-01 URI - Failure to conduct visual inspections of the control rods in accordance with TS requirements

Work continued on an automated system for tracking the schedule for required surveillances. Until an improved tracking system is made functional the licensee continued to perform surveillances using a manual tracking system. This item will therefore remain open.

c. Conclusions

An Inspector Follow-up Item was closed:

50-166/2006-201-01 IFI - Follow-up to verify that the licensee conducts intermittent surveys in the reactor bay

An Inspector Follow-up Item and an Un-Resolved Item were discussed but remain open:

50-166/2006-201-02 IFI - Follow-up to verify that the licensee reviews the Memorandum of Understanding with the Prince Georges County Fire Department

50-166/2006-201-01 URI - Failure to conduct visual inspections of the control rods in accordance with TS requirements

**10. Exit Meeting**

The inspector presented the inspection results to licensee management at the conclusion of the inspection on June 15, 2007. The licensee acknowledged the findings presented and did not request consideration that any of the information discussed be withheld from public disclosure.



## LIST OF PERSONS CONTACTED

### Licensee

V. Adams	Facility Coordinator and Senior Reactor Operator
M. Al-Sheikhly	Director, Radiation Facilities and Nuclear Reactor
I. Gifford	Graduate Research Assistant and Reactor Operator
S. Hand	Radiation Safety Officer
M. Kotlas	Director, Department of Environmental Safety
R. S. Lupin	Associate Director, Department of Environmental Safety
G. Pertmer	Chairman of the Reactor Safety Committee and Associate Dean
B. Zidek	Health Physicist

## INSPECTION PROCEDURES USED

IP 69001	Class II Non-Power Reactors
IP 86740	Transportation
IP 92701	Follow-up

## ITEMS OPENED, CLOSED, AND DISCUSSED

### OPENED:

50-166/2007-201-01 IFI	Improved documentation of TS compliance regarding RSC records, ALARA audit, annual report submission, 50.59 implementation, and electronic SNM inventory reports.
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### CLOSED:

50-166/2006-201-01 IFI	Follow-up to verify that the licensee conducts intermittent surveys in the reactor bay.
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### DISCUSSED:

50-166/2006-201-01 URI	Failure to conduct visual inspections of the control rods in accordance with TS requirements.
50-166/2006-201-02 IFI	Follow-up to verify that the licensee reviews the Memorandum of Understanding with the Prince Georges County Fire Department.

## LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
FC	Facility Coordinator
FD	Facility Director
IFI	Inspector Follow-up Item
IP	Inspection Procedure

MUTR	Maryland University Training Reactor
NRC	Nuclear Regulatory Commission
RO	Reactor Operator
RSC	Reactor Safety Committee
RSO	Radiation Safety Officer
SRO	Senior Reactor Operator
TS	Technical Specifications
UMD	University of Maryland
URI	Unresolved Item