May 30, 2007

Dr. John A. Bernard, Jr.
Director of Reactor Operations
Massachusetts Institute of Technology
Research Reactor
MITNRL-NW 12
138 Albany Street
Cambridge, MA 02139

SUBJECT: NRC INSPECTION REPORT NO. 50-020/2007-201

Dear Dr. Bernard:

This letter refers to a routine inspection conducted on May 7 to 11, 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. 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 Eads, Branch Chief
Research and Test Reactors Branch B
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-020
License No. R-37

Enclosure: NRC Inspection Report No. 50-020/2007-201

cc w/enclosure: See next page

Letter to John A. Bernard from Johnny Eads dated May 30, 2007.

SUBJECT: NRC INSPECTION REPORT NO. 50-020/2007-201

cc:

City Manager
City Hall
Cambridge, MA 02139

Department of Environmental Protection
One Winter Street
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Director, Radiation Control Program
Department of Public Health
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Massachusetts Emergency Management Agency
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Test, Research, and Training
Reactor Newsletter
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

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

Docket No:	50-020
License No:	R-37
Report No:	50-020/2007-201
Licensee:	Massachusetts Institute of Technology (MIT)
Facility:	MIT Research Reactor
Location:	Cambridge, Massachusetts
Dates:	May 7-11, 2007
Inspectors:	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

Massachusetts Institute of Technology
Research Reactor Facility
NRC Inspection Report No.: 50-020/2007-201

This routine, announced inspection included on-site review of the licensee's programs concerning organization and staffing, operations and maintenance; review and audit functions and design changes; experiments; procedures; surveillance; fuel movement; reactor operator licenses, requalification and medical examinations; emergency preparedness; radiation protection; effluent and environmental monitoring; transportation; and follow up on previously identified items. Since the inspection was scheduled to coincide with a reactor maintenance outage, inspection activities were focused on non-routine operational activities and conditions. Specific findings include:

Organization and Operations and Maintenance Activities

- The organizational structure is in accordance with Technical Specifications requirements.

- Supplemental surveillance procedures are being performed while investigations continue to fully address the seized control blade issue.

Review and Audit and Design Change Functions

- The review program was found to be effectively implemented in accordance with Technical Specifications requirements.

Experiments

- Outage work activities on experimental facilities was being performed in a safe and professional manner.

Procedures

- Adequate procedures were in place to support the supplemental control blade drop time tests. A procedures improvement program has been defined and initiated for radiation monitoring procedures in need of improvement.

Surveillance

- Outage surveillances were observed being performed in a safe and professional manner.

Fuel Movement

- Fuel handling was observed being performed in a safe and professional manner.

Operator Licenses, Requalification and Medical Activities

- The reactor operator requalification program was found to be properly implemented.

Emergency Preparedness

- An unplanned event during the outage demonstrated proper implementation of emergency response procedures.

Radiation Protection

- All radiation protection activities observed by the inspector were found to be consistent with regulatory and license requirements.

Effluent and Environmental Monitoring

- Effluent monitoring instrumentation was observed being calibrated in a proper manner.

Transportation Activities

- This inspection activity was deferred to the next inspection.

Follow-up of Previously Identified Items

- Two Inspector Follow-up Items were discussed but remain open:

  - Record the results of MIT Reactor Safeguards Committee (MITRSC) review of new experiments on the checklist

  - Follow-up to verify that the licensee implements the Continuous Improvement Process (CIP)

- An Inspector Follow-up Item and an Un-Resolved Item were closed:

  - Follow-up to verify that the licensee completes the annual neutron-gamma survey procedure

  - Failure to conduct the required surveillance for the specified radiation monitors in accordance with TS requirements

REPORT DETAILS

Summary of Plant Status

The licensee's five megawatt research reactor routinely operated 24 hours a day, seven days a week, for three month cycles in support of educational experiments, research and service irradiations, reactor operator training, and periodic equipment surveillances. At the end of each of the first two months of a cycle the reactor is shutdown for a short outage to perform surveillance testing. At the end of every third month the reactor is shut down for approximately a week for maintenance, refueling, and surveillance testing. The subject inspection was scheduled to coincide with the maintenance and refueling outage. Inspection activities were therefore focused on routine outage conditions and activities.

1. Organization and Operation and Maintenance Activities

a. Inspection Scope (Inspection Procedure [IP] 69006)

The inspector reviewed the following to verify compliance with Technical Specifications (TS) requirements and to investigate operational and maintenance unique to outage conditions:

- TS Section 7.1, [Administrative Controls] Responsibility
- TS Section 7.2, [Administrative Controls] Reactor Staff Organization
- TS Section 7.3, [Administrative Controls] Reactor Staff Qualification
- MIT Nuclear Reactor Laboratory Organization Chart, April 23, 2007
- File of email originating from E. Lau documenting findings in Control Blade Investigation, January 2007 to present

b. Observations and Findings

The inspector verified that the organizational structure and responsibilities meet the TS requirements. New reactor operator trainees have been added to the staff, replacing student operators who have left campus.

The majority of time spent reviewing operations and maintenance activities focused on a control blade issue. The MIT Reactor (MITR) has six control blades that move vertically in guide slots positioned around the exterior circumference of the core. The insertion of any one blade makes the core subcritical. While TS 4.4.1 requires that the six blades be drop time tested annually, the practice was to drop time test one blade each month.

The licensee reported that during control blade drop time testing on February 27, 2007, a control blade failed to fully insert and was replaced with a new spare. All blades were drop time tested successfully and the reactor was returned to operation. While immediate examination of the highly radioactive "failed blade" was difficult, there appeared to be a bow (later characterized as a bulge) in the control blade near the tip that resides in the neutron flux during operation. As

the “failed blade” decayed the licensee continued to perform additional in-pool characterization. Blades from the same fabrication batch that had been removed from service in the past were also inspected. The inspections included passing the blades through go/no-go gauges to characterize the bulge. The licensee’s findings to date show that while all blades show a similar bulge, the “failed blade” thickness is greater than other blades and nearly the thickness of the slot into which it inserts. While the licensee does not have data on the as-built blade thickness they find it conceivable that the additional thickness from bulging combined with unfavorable but acceptable tolerances in the manufacture of blades may have resulted in the seized blade.

The blade design consists of two borated stainless steel plates of equal size, riveted together but separated with washers to create a coolant channel between the plates. The licensee noted that the observed bulging occurs on the plate facing the core which experiences the greater neutron absorption, generates more heat, and experiences greater thermal expansion forces. One of the two plates has vertical slots for the rivets to allow differential thermal expansion between the two plates in the vertical direction. The bulging typically occurs over a three- inch by five inch oval area at the tip of the blade, surrounded by four rivets.

The licensee intends to purchase new blades but is considering design changes such as allowing the blade to expand in the two directions, reviewing manufacturing tolerances to preclude interference after anticipated bulging, and verifying that there is optimum vertical alignment between the blade and the receiver slot.

NRC inspectors will follow this issue as an Inspector Follow-up Item (IFI) as the licensee continues the investigation and analysis. The licensee has self-imposed two surveillance tests that are performed during each refueling outage; each of the six control blades in service is subjected to an *in-situ* thickness measurement and the drop time is measured. The inspector considered these interim measures to be appropriate to assure continued safe performance. (IFI 50-020/2007-201-01)

c. Conclusion

The organizational structure is in accordance with TS requirements.

Supplemental surveillance procedures are being performed while investigations continue to fully address the seized control blade issue.

2. Review and Audit and Design Change Functions

a. Inspection Scope (IP 69007)

The inspector reviewed the following to verify compliance with TS Section 7.5.2, MIT Reactor Safeguards Committee (MITRSC), and license requirements:

- Draft Minutes of the MIT Reactor Safeguards Committee Meeting #94 held on December 8, 2006
- Draft Minutes of the MIT Reactor Safeguards Committee Standing Subcommittee Meeting held on January 19, 2007
- Annual Report to the Nuclear Regulatory Commission for the Period July 1, 2005 to June 30, 2006, submitted October 12, 2006

b. Observations and Findings

A meeting of the full MITRSC was convened on December 8, 2006, meeting the requirement for an annual meeting. The previous meeting of the full committee, meeting #93, was held on December 9, 2005, thereby meeting the annual meeting requirement. An issue was discussed that was referred to a standing subcommittee that met in January.

A meeting of the MITRSC Standing Subcommittee convened on January 19, 2007. The entire meeting was devoted to an investigation of health physics records that is discussed in detail in Section 12 of this report.

Procedures that were in place for the review of changes were reviewed in the October 6 inspection. The licensee reported that there have been no changes to those procedures and that no new changes have been approved since that inspection.

c. Conclusion

The review program was found to be effectively implemented in accordance with TS requirements.

3. Experiments

a. Inspection Scope (IP 69005)

The inspector observed outage activities to verify compliance with the requirements of TS Section 6, Experiments.

b. Observations and Findings

The inspector observed work being performed on experimental facilities as part of the refueling outage activities. In particular he observed work being performed on the silicon irradiation facility and the re-installation of the Advanced Clad Irradiation (ACI) test loop. Particular attention was given to personnel safety, contamination control for personnel, and preserving configuration control in accordance with the experiment approval. Work was found to be executed in a safe and professional manner.

c. Conclusions

Outage work activities on experimental facilities was being performed in a safe and professional manner.

4. Procedures

a. Inspection Scope (IP 69008)

The inspector reviewed the following to verify compliance with the requirements of TS 7.8, Operating Procedures:

- System Tests and Calibrations Notebook (contains preventative maintenance procedures, including one for control blade drop testing)
- Shutdown Procedure (contains step to measure control blade drop time) 3.2, Shutdown Checklists 3.2.1, Shutdown from Operations at Power, issued July 25, 2005(References Blade Drop-Time Logbook in the Control Room)
- Radiation Protection Procedures - Tracking

b. Observations and Findings

The review of procedures focused on the availability of and adherence to procedures to track the control blade drop time issues addressed in Section 1 of this report and the surveillance testing of radiation monitors addressed in Section 12 of this report.

In the case of control blade drop time testing, the above referenced procedures were found to exist and were being implemented. A temporary change to the procedure is in place, properly executed with the signature of two licensed Senior Reactor Operators (SROs), amending the procedure to require the test of all six blades rather than only one.

In the case of radiation monitors, a major review and upgrade program has been initiated. The document referenced above is designed to track progress of that program by denoting the work required on each procedure, the priority for completing each procedure, the person responsible, and target completion dates.

c. Conclusions

Adequate procedures were in place to support the supplemental control blade drop time tests. A procedures improvement program has been defined and initiated for radiation monitoring procedures in need of improvement.

5. Surveillance

a. Inspection Scope (IP 69010)

The inspector reviewed the following to verify compliance with TS surveillance requirements:

- "Outage Tasks for Week of 5/7/2007," email from E. Lau to staff, April 25, 2007
- Procedure RRP-4012, Rev. 2, Effluent and Process Radiation Monitoring System Annual Calibration, April 4, 2007
- Procedure RRP-4008, Rev. 4, Area Radiation Monitor System Quarterly Calibration, April 2007

- Test and Surveillance Tracker, 2006
- Test and Surveillance Tracker, 2007

b. Observations and Findings

The licensee maintained a Test and Surveillance Tracker for each year. This instrument listed the surveillances required each month for the entire year, showing those surveillances required in each of the two "short outage" months followed by a larger list for the quarterly refueling and maintenance outage. The computer-printed tracker provided blanks to manually enter the scheduled date for each surveillance and the date on which it was actually performed. This system provided the reactor operations group the capability to reliably complete surveillances on a timely basis.

A week prior to the outage the Superintendent of Operations emailed the staff a list of outage activities. At the start of each day of the outage he convened a brief all-hands meeting where the daily schedule was distributed and discussed. The inspector attended these meetings and found them effective in directing outage activities in a safe and effective manner. Staff members were encourage to participate. The inspector witnessed staff members addressing safety matters and both management and staff being responsive to questions and suggestions.

The inspector observed the calibration of area radiation monitors using the above-cited procedure. This was significant because the procedure was newly revised (re-written) as part of the corrective action discussed in Section 12 of this report. The technician was knowledgeable of the activities observed (finding voltage plateaus for detectors, verifying proper responses to check sources, etc.) but yet referred to the procedure frequently.
The procedure was written clearly, contained spaces for sign-offs of significant steps, and provided useful information (e.g., photographs) for less experienced users.

c. Conclusions

Outage surveillances were observed being performed in a safe and professional manner.

6. Fuel Movement

a. Inspection Scope (IP 69009)

The inspector reviewed the following to verify compliance with the licensee's TS, Section 3.10, Fuel Element and Core Component Handling and Storage:

- Fuel Loading Permission - Core Configuration No. 178, by T Newton, May 4, 2007
- Procedure 3.3, Movement of Fuel, and Procedure 3.3.1, General Conduct of Refueling Operations, January 10, 1994

b. Observations and Findings

The inspector reviewed the licensee's plan for configuring Core 178 along with the step-by-step movements of fuel elements. The inspector also observed the fuel handling crew performing the fuel moves in the reactor. Fuel handling was done in a professional manner in accordance with procedural requirements (e.g., loose items taped down, independent verification of fuel serial numbers, communication with the control room operator, verifying each move against the procedure, verifying the core to be free of foreign material upon completion of fuel moves, etc.)

c. Conclusions

Fuel handling was observed being performed in a safe and professional manner.

7. Operator Licenses, Requalification and Medical Activities

a. Inspection Scope (IP 69003)

The inspector reviewed the following to verify compliance with 10 CFR Part 55 and the licensee's operator requalification plan:

- Reactor Requalification File, January 1, 2006 to the present
- Medical examination files

b. Observations and Findings

The licensee reported that eight individuals are preparing for operator license examinations this fall; eight for Reactor Operator (RO), two for instant Senior Reactor Operator (SRO), and two for RO to SRO upgrades.

The inspector reviewed requalification records and from a random check determined that operators were recording more than the minimum required time at the controls. The licensee stated that physical exams for all licensed operators are given by the MIT medical center where the staff members have been briefed on Section 7, Medical Certification and Monitoring of Certified Personnel, of ANSI 15.4-1988, Selection and Training of Personnel for Research Reactors. A form incorporating provisions of the standard had been developed and was being used specifically for reactor operator physicals.

c. Conclusions

The reactor operator requalification program was found to be properly implemented.

8. Emergency Preparedness

a. Inspection Scope (IP 69011)

The inspector reviewed the following to verify that emergency preparedness was being maintained:

- Emergency Plan for the MIT Research Reactor, License No. R-37, Docket No. 50-20, J. Bernard, June 6, 1997

b. Observations and Findings

The licensee reported that there were no new developments in emergency preparedness since the last inspection which concluded October 20, 2006. However, a spurious signal during outage surveillances triggered an unplanned demonstration of an emergency response. While performing the battery discharge test a spurious signal was initiated at the reactor and received at MIT police headquarters. Recognizing the lighting to be abnormal (a condition unique to the discharge test), the police responded accordingly. The unplanned exercise demonstrated an appropriate emergency response.

c. Conclusions

An unplanned event during the outage demonstrated proper implementation of emergency response procedures.

9. Radiation Protection

a. Inspection Scope (IP 69012)

The inspector reviewed the following to verify compliance with regulatory and license requirements:

- Radiation Protection training material for workers
- Records of radiation protection training given to workers
- Monthly Gamma Radiation Survey Record, 2006 and 2007
- Monthly Contamination Survey Record, 2006 and 2007

- Daily Gamma Radiation Survey Record, 2006 and 2007
- Daily/Weekly Floor Contamination Survey Record, 2006 and 2007

b. Observations and Findings

The inspector observed activities related to the outage, some of which are not normally performed or as readily observable during non-outage inspections. Specifically, he witnessed the set-up and use of step-off pads, the use of protective clothing when working in potentially contaminated areas, work control practices when workers entered radiation areas the assignment of dosimetry when entering the reactor building, calibration of radiation monitors, the use and handling of check sources for calibrations, debugging of the fission converter beam area radiation monitor, gathering and counting of smear samples to monitor for contamination, the use of survey instruments by facility personnel, the use of friskiers and hand-and-foot monitors when leaving potential contamination areas, and the posting of radiation warning signs.

The inspector also verified that a current copy of the NRC Form 3 “Notice to Employees” was prominently posted where radiation workers could view it. He reviewed training material and records indicating that workers received radiation protection training. He also reviewed the pilot program for issuing self-reading dosimeters to facility workers.

The inspector reviewed the four sets of radiation survey records listed above for the year 2006 and the year-to-date for 2007. When the data sheets were completed they had been signed off as reviewed by the Reactor Radiation Protection Officer (RRPO); however, the data sheets had no place to indicate the date when they were reviewed and therefore no date was recorded in most cases. It was noted that since the monthly survey record was designed for a full year of data, the sign-off for RRPO review was only done at year end even though the RRPO may have reviewed it numerous times throughout the year. The inspector suggested that the format of the daily survey records was preferred in that it provided space to indicate review of the data on a more frequent basis.

c. Conclusions

All radiation protection activities observed by the inspector were found to be consistent with regulatory and license requirements.

10. Effluent and Environmental Monitoring

a. Inspection Scope (IP 69004)

To verify compliance with TS requirements the inspector reviewed selected aspects of:

- Procedure RRP-4012, Rev. 2, Effluent and Process Radiation Monitoring System Annual Calibration, April 4, 2007

b. Observations and Findings

Since the effluent and environmental monitoring program had been inspected thoroughly in the October 2006 inspection, the inspector took advantage of the outage conditions to focus his review on activities related to the program that could only be observed during an outage, specifically on the calibration of effluent monitoring equipment. This was also significant because the procedure used for the calibration cited above was recently re-written as part of an improvement program for radiation protection processes (see Section 12 of this report). The technician performing the calibration was knowledgeable of the subject matter, meticulous in following the procedure, and professional in the conduct of work.

c. Conclusions

Effluent monitoring instrumentation was observed being calibrated in a proper manner.

11. Transportation Activities

a. Inspection Scope (IP 86740)

None

b. Observations and Findings

Since the inspector focusing the inspection on routine outage activities and there were no outage-related transportation activities to inspect, this inspection activity was deferred to the next regularly scheduled inspection.

c. Conclusions

This inspection activity was deferred to the next inspection.

12. Follow-up on Previously identified Items

a. Inspection Scope (IP 92701)

To verify that appropriate action was taken in response to previously identified items referenced below, the following records were reviewed:

- Draft Minutes of the MIT Reactor Safeguards Committee Meeting #94 held on December 8, 2006
- Draft Minutes of the MIT Reactor Safeguards Committee Standing Subcommittee Meeting held on January 19, 2007

b. Observations and Findings

(1) IFI 50-020/2004-202-01 - Record the results of MITRSC review of new experiments on the checklist

No new experiments have been reviewed by the MITRSC since this IFI was last discussed with the inspector. It will be re-visited after the next opportunity arises to review its implementation. This IFI therefore remains open.

(2) IFI 50-020/2006-202-01 - Follow-up to verify that the licensee implements the CIP

The CIP is reportedly progressing well but not yet completed. Due to time constraints the inspector deferred further review until a later inspection. This IFI therefore remains open.

(3) IFI 50-020/2006-202-02 - Follow-up to verify that the licensee completes the annual neutron-gamma survey procedure

The licensee reported that the neutron survey instrument has been repaired and returned to the site; the survey procedure in question has been completed. This IFI is therefore closed.

(4) URI 50-020/2006-202-03 - Failure to conduct the required surveillance for the specified radiation monitors in accordance with TS requirements

The original Un-Resolved Item (URI) identified during an October 2006 NRC inspection questioned the timeliness of quarterly calibrations of the area radiation monitors as required by the Technical Specifications. The licensee immediately performed the calibration and proceeded to investigate the cause and determine appropriate corrective action. The investigation identified poor record practices related to these and other calibrations.

A question was raised whether there was an attempt to falsify the records. The matter was discussed at the December Safeguards Committee meeting followed by a January Standing Subcommittee meeting of over two hours duration on the overall investigation. The committee and subcommittee discussed an investigation by the responsible staff personnel, audits by two outside consultants, an investigation by MIT responsible administration, and investigations by three MIT experts who had no vested interest in the records in question. Not all of these investigations were completed or had summary reports completed at the time of the meetings.

The inspector met with administrators involved in the investigations and key staff members, including the technician who recorded most of the data in question. The inspector concluded that data recording practices require improvement but found no indication of intentional wrong-doing. The licensee discussed corrective actions that are being formulated. Since they are an inherent part of routine inspections they will be reviewed during subsequent inspections, giving no need to retain an open URI.

Another consideration in closing the URI was the timeliness of the TS calibration. The licensee interpreted the TS requirement for quarterly calibrations to mean calendar quarters. Calibrations had been performed in the first and second quarters of 2006 but not the third. Performing the third quarter calibration on October 20th met the 25% (three week) allowable extension of the third quarter in his opinion. The licensee was informed while such an interpretation may be made using the current TS, that was not the intent and the wording will be clarified in revisions forth-coming with the renewed license.

Considering the facts that future routine inspections will consider corrective actions currently being implemented and that a plan is in place to clarify the TS, there is no need for this URI to remain open and it is therefore closed.

c. Conclusions

Two Inspector Follow-up Items were discussed but remain open:

IFI 50-020/2004-202-01 - Record the results of MITRSC review of new experiments on the checklist

IFI 50-020/2006-202-01 - Follow-up to verify that the licensee implements the CIP

An Inspector Follow-up Item and an Un-Resolved Item were closed:

IFI 50-020/2006-202-02 - Follow-up to verify that the licensee completes the annual neutron-gamma survey procedure

URI 50-020/2006-202-03 - Failure to conduct the required surveillance for the specified radiation monitors in accordance with TS requirements

13. Exit Meeting

The inspector presented the inspection results to licensee representatives at the conclusion of the inspection on May 11, 2007. The inspector discussed the observations for each area reviewed. The licensee acknowledged the findings and did not identify as proprietary any of the material provided to or reviewed by the inspector during the routine inspection.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Bernard	Director of Reactor Operations
E. Block	Maintenance Supervisor
P. Drooff	Health Physicist
J. Foster	Assistant Superintendent of Operations
L. DiBerardinis	Director of Environmental Health and Safety (EHS)
R. Dresios	Senior Technician, EHS
E. Lau	Assistant Operations Superintendent
F. McWilliams	Reactor Radiation Protection Officer and Deputy Director, EHS
D. Moncton	Director of the MIT Nuclear Reactor Laboratory
T. Newton	Associate Director, Engineer
J. Quattrochi	Bates Accelerator Radiation Protection Officer
B. Rice	Project Technician, EHS
S. Tucker	Quality Assurance Supervisor
F. Warmsley	Reactor Supervisor and Training Coordinator

INSPECTION PROCEDURES USED

IP 69003	Class 1 Research and Test Reactor Operator Licenses, Requalification, and Medical Activities
IP 69004	Class 1 Research and Test Reactor Effluent and Environmental Monitoring
IP 69005	Class 1 Research and Test Reactors Experiments
IP 69006	Class 1 Research and Test Reactors Organization, Operations, and Maintenance Activities
IP 69007	Class 1 Research and Test Reactors Review and Audit and Design Change Functions
IP 69008	Class 1 Research and Test Reactor Procedures
IP 69009	Class 1 Research and Test Reactors Fuel Movement
IP 69010	Class 1 Research and Test Reactors Surveillance
IP 69011	Class 1 Research and Test Reactors Emergency Preparedness
IP 69012	Class 1 Research and Test Reactor Radiation Protection
IP 86740	Inspection of Transportation Activities
IP 92701	Follow up

ITEMS OPENED, CLOSED, AND DISCUSSED

OPENED:

50-020/2007-201-01	IFI	Resolution of control blade bulging

CLOSED:

50-020/2006-202-02	IFI	Follow-up to verify that the licensee completes the annual neutron-gamma survey procedure

50-020/2006-202-03	URI	Failure to conduct the required surveillance for the specified radiation monitors in accordance with TS requirements

DISCUSSED:

50-020/2004-202-01	IFI	Record the results of MITRSC review of new experiments on the checklist
50-020/2006-202-01	IFI	Follow-up to verify that the licensee implements the CIP

LIST OF ACRONYMS USED

10 CFR	Title 10 of the *Code of Federal Regulations*
ACI	Advanced Clad Irradiation
ADAMS	Agencywide Documents Access and Management System
CFR	*Code of Federal Regulations*
CIP	Continuous Improvement Program
EHS	Environmental Safety and Health
IFI	Inspector Follow-up Item
IP	Inspection Procedure
MIT	Massachusetts Institute of Technology
MITR	Massachusetts Institute of Technology Research Reactor
MITRSC	MIT Reactor Safeguards Committee
NRC	Nuclear Regulatory Commission
Rev.	Revision
RO	Reactor Operator
RRPO	Reactor Radiation Protection Officer
SRO	Senior Reactor Operator
TS	Technical Specification
URI	Unresolved Item