

August 30, 2011

Dr. Howard D. Grimes
Vice President for Research
and Dean of the Graduate School
Washington State University
Pullman, WA 99164-1030

SUBJECT: WASHINGTON STATE UNIVERSITY – NRC ROUTINE INSPECTION REPORT
NO. 50-027/2011-201

Dear Dr. Grimes:

On August 1-4, 2011, the U.S. Nuclear Regulatory Commission (NRC, the Commission) completed an inspection at your Washington State University TRIGA research reactor located in the Nuclear Radiation Center (Inspection Report No. 50-027/2011-201). The enclosed report documents the inspection results, which were discussed on August 4, 2011, with Dr. Donald Wall, Director of the Nuclear Radiation Center, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Based on the results of this inspection, no findings of significance were identified. No response to this letter is required.

In accordance with Title 10 of the *Code of Federal Regulations*, Section 2.390, "Public inspections, exemptions, and requests for withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access and Management System (ADAMS)). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, please contact Mike Morlang at 301-415-4092 or electronic mail at gary.morlang@nrc.gov.

Sincerely,
/RA/

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

Docket No. 50-027
License No. R-076

Enclosure: NRC Inspection Report No. 50-027/2011-201
cc w/encl: See next page

Washington State University

Docket No. 50-27

cc:

Chair, Reactor Safeguards Committee
Nuclear Radiation Center
Washington State University
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Pullman, WA 99164 – 1300

Mr. Corey Hines
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Washington State University
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Office of the Governor
Executive Policy Division
State Liaisons Officer
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Olympia, WA 98504-3113

Dr. Donald Wall
Director, Nuclear Radiation Center
Washington State University
P.O. Box 641300
Pullman, WA 99164-1300

Test, Research, and Training
Reactor Newsletter
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

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Docket No. 50-027
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cc w/encl: See next page

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DATE	8/23/11	8/23/11	8/30/11

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

Docket No: 50-027

License No: R-076

Report No: 50-027/2011-201

Licensee: Washington State University

Facility: Nuclear Radiation Center

Location: Pullman, WA

Dates: August 1-4, 2011

Inspectors: Mike Morlang
Craig Bassett

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

EXECUTIVE SUMMARY

Washington State University
Nuclear Radiation Center
Report No.: 50-027/2011-201

The primary focus of this routine, announced inspection was the on-site review of selected aspects of the Washington State University (the licensee's) Class II research and test reactor safety program including: 1) organization and staffing, 2) operations logs and records, 3) operator requalification, 4) surveillance and limiting conditions for operations, 5) experiments, 6) committees, audits and reviews 7) emergency preparedness, 8) maintenance logs and records, and 9) fuel handling logs and records since the last U.S. Nuclear Regulatory Commission (NRC) inspection of these areas. The licensee's program was acceptably directed toward the protection of public health and safety and in compliance with NRC requirements. No violations or deviations were identified.

Organizational Structure and Staffing

- The organizational structure and staff responsibilities were consistent with Technical Specification (TS) Section 6 requirements.

Operations Logs and Records

- Operational activities were consistent with applicable TS and procedural requirements.

Operator Licenses, Requalification, and Medical Activities

- Operator requalification was conducted as required by the Reactor Staff Requalification Program.
- A medical examination for each reactor operator with an active license was being completed every two years as required.

Surveillance and Limiting Conditions for Operations

- The program for tracking and completing surveillance checks and Limiting Conditions for Operation verifications satisfied TS requirements and licensee administrative controls.

Experiments

- Conduct and control of experiments and irradiations met the requirements specified in the TS, the applicable experiment and irradiation authorizations, and associated procedures.

Committees, Audits and Reviews

- The review and audit program was being conducted by the Reactor Safeguards Committee.

Emergency Preparedness

- The Emergency Plan and Implementing Procedures were being reviewed and updated and were acceptable.
- Emergency response facilities and equipment were being maintained as required and responders were knowledgeable of proper actions to take in case of an emergency.
- Off-site support was acceptable and communications capabilities were adequate.
- Annual drills were being conducted and critiques were being held as required by the Emergency Plan.

Maintenance Logs and Records

- Maintenance logs, records, performance, and reviews satisfied TS and procedure requirements.

Fuel Handling

- Fuel handling activities and documentation were in compliance with the requirements specified in the facility TS and procedures.

REPORT DETAILS

Summary of Plant Status

The Washington State University (WSU, the licensee's) one megawatt (MW) TRIGA research and test reactor continued normal, routine operations. A review of the applicable records indicated that the reactor was operated as needed in support of education, operator training, irradiation of various materials, and, on occasion, experiments involving Boron Neutron Capture Therapy work. During the inspection, the reactor was operated at levels up to 1 MW as required and in accordance with applicable procedures to support ongoing irradiation activities.

1. Organizational Structure and Staffing

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

The inspectors reviewed the following regarding the licensee's organization and staffing to ensure that the requirements of Sections 6.1-6.3 of Technical Specifications (TS), Amendment Number (No.) 20, dated September 30, 2008, were being met:

- Staff qualifications
- Management responsibilities
- Staffing requirements for the safe operation of the facility
- WSU Nuclear Radiation Center (NRC) organizational structure and staffing
- WSUNRC Operating Log (O.1) sheets from January through August 2009
- WSUNRC Administrative Procedure, Section No. 1, entitled "Responsibilities and Authority of Reactor Operating Staff," (not dated)
- ANSI/ANS Standard 15.4-2007, "Selection and Training of Personnel for Research Reactors," approved August 17, 2007

b. Observations and Findings

The inspectors noted that the WSUNRC organizational structure and the responsibilities of the reactor staff had not changed since the last inspection at the facility in August 2010. The reactor staff currently consisted of 2 qualified Senior Reactor Operator's (SRO) and 5 Reactor Operator's (RO). The inspectors determined that the reactor operations staff met the training and experience requirements as stipulated in the TS and outlined in ANSI/ANS-15.4, "Selection and Training of Personnel for Research Reactors." In addition, the operations log and associated records confirmed that shift staffing satisfied the minimum requirements for duty and on-call personnel.

c. Conclusion

The operations organizational structure and responsibilities were consistent with TS requirements. Shift staffing met the requirements for current operations.

2. Operations Logs and Records

a. Inspection Scope (IP 69001)

The inspectors reviewed selected aspects of the following to verify compliance with TS Section 6.2 and the applicable procedures:

- WSUNRC TS dated September 30, 2008
- Observation of selected operations activities on August 2 and 3, 2011
- Scram Summary Log (S.1) entries from January 25, 2010 through January 1, 2011
- Pulsing Summary Log (S.2) entries from March 6, 2009 through August 1, 2011
- WSUNRC Maintenance Log (0.8) from January 2010 to present
- Reactor Operating Log (O.1) sheets from January 2010 through July 2011, entitled "WSU Nuclear Radiation Center Reactor Log," NRC Form No. 22, latest form revision dated October 2009
- Selected entries on Reactor Start-Up Checkoff (O.3) forms entitled WSU Nuclear Radiation Center Form No. 34, "WSU Reactor Start-Up Checkoff," latest form revision dated September 28, 2009
- WSU Annual Report entitled "Annual Report on the Operation of the Washington State University TRIGA Reactor" for the periods from July 1, 2009 through June 30, 2010, dated August 30, 2010
- WSUNRC Administrative Procedure, Section No. 1, entitled "Responsibilities and Authority of Reactor Operating Staff," (not dated)
- WSUNRC Standard Operating Procedure (SOP) No. 1, "Standard Procedure for Use of the Reactor," dated October 21, 2010
- WSUNRC SOP No. 4, "Standard Procedure for Startup, Operation, and Shutdown of the Reactor," dated October 4, 2010

b. Observations and Findings

Reactor operations were carried out following written procedures and in accordance with TS requirements. As noted above, shift staffing satisfied the minimum requirements for duty and on-call personnel. Quarterly audits were conducted by RSC personnel and correctly documented. Accurate correlation between reactor logs, scram logs, pulse logs, and maintenance logs was noted. Equipment problems and events were well documented and resolved, with SRO approval if required for restart of the reactor.

The inspectors observed the completion of the reactor pre-startup checklist and the startup of the reactor to full power. All procedural and TS required log entries were entered in the logs.

c. Conclusion

The operational activities were found to be consistent with applicable TS and procedural requirements.

3. Operator Licenses, Requalification, and Medical Activities

a. Inspection Scope (IP 69001)

The inspectors reviewed the following in order to determine that operator training and requalification activities were conducted as required and that medical requirements were met:

- Biennial written examination records for 2007 through 2009
- Operator medical examination records from 2006 to the present
- Operator license status and effective dates of current operator licenses
- WSUNRC Reactor Staff Requalification Program, latest revision (Rev.) dated January 18, 2008
- Active duty status and Annual Reactor Operating Test results noted and maintained in the Requalification Schedule forms (A.3)
- Logs and records of reactivity manipulations maintained in the Quarterly RO/SRO Activity Report (O.15) Notebook and documented on forms entitled, "Quarterly Operational Hours for RO and SRO," latest form revision dated January 2000

b. Observations and Findings

As noted above, at the time of the inspection, there were two qualified SROs and five qualified ROs working at the facility. The inspectors noted that all the licenses of the operators were current.

A review of the logs and records showed that the training and requalification program was being followed and that biennial written examinations had been completed as required. An annual operating test had been conducted for each operator by the Reactor Supervisor as required by the program as well. It was also verified that each operator had completed the required number of hours of reactor operations/reactivity manipulations each calendar quarter as required. Records of these reactor manipulations, other operational activities, and/or Reactor Supervisor activities were being maintained, as were records of the Annual Operations Tests. The program was up-to-date and training was current.

The inspectors reviewed records documenting the completion of physical examinations for selected operators. It was noted that qualified operators were receiving biennial medical examinations as required.

c. Conclusion

The requalification and training program was up-to-date and acceptably maintained. A medical examination for each operator was being completed biennially as required.

4. Surveillance and Limiting Conditions for Operations

a. Inspection Scope (IP 69001)

To verify compliance with TS Sections 3, 4, and 5, the inspectors reviewed selected aspects of:

- Reactor Operations Summary Sheets for 2010 and 2011 to date
- Control Element Inspection Log (O.5) for 2011
- Core Reactivity Parameters Log (O.7) Monthly 2010 thru June 2011
- Maintenance Log, Volume 1 (O.8), pages 117-130
- Preventative Maintenance Checklists (O.2) for 2010 and to date in 2011
- RSC meeting minutes for the past two years through the date of the inspection
- Power Calibration Log forms (also in O.2) for 2010 through the date of the inspection
- Monthly Console and Auxiliary Equipment Checklist Log (O.9) containing documentation of equipment maintenance as indicated on the WSU Nuclear Radiation Center Form No. 40, entitled "Console Auxiliary Equipment Maintenance Checklist," latest form revision dated September 2008
- WSUNRC Reactor Operating Log (O.1) sheets from January 2010 through July 2011
- WSU Annual Report entitled "Annual Report on the Operation of the Washington State University TRIGA Reactor" for the periods from July 1, 2009 through June 30, 2010, dated August 30, 2010
- WSUNRC Administrative Procedure, Section No. 5, entitled "Surveillance Documentation Review," (not dated)
- WSUNRC Administrative Procedure, Section No. 6, entitled "Performance of Maintenance Activities," (not dated)
- WSUNRC SOP No. 5, "Standard Procedure for Performing Preventive Maintenance on the Reactor and Associated Equipment," dated October 4, 2010
- WSUNRC SOP No. 8, "Standard Procedure for Control Element Maintenance, Removal, and Replacement," dated February 17, 1995
- WSUNRC SOP No. 13, "Standard Procedure for Performing Power Calibrations," dated March 6, 2008
- WSUNRC SOP No. 14, "Standard Procedure for Alignment of the Fuel Temperature System," dated November 29, 2006
- WSUNRC SOP No. 15, "Standard Procedure for Control Element Calibration," dated December 4, 2003
- WSUNRC SOP No. 23, "Standard Procedure for Pool Water Analysis," dated September 29, 2005
- WSUNRC SOP No. 31, "Standard Procedure for the Transfer of Non-Fuel Devices and Experimental Apparatus into and out of the Reactor Pool," dated September 29, 2005

b. Observations and Findings

The Inspectors determined that the daily, weekly, monthly, semiannual, and other periodic checks, tests, and verifications for TS required LCOs were being completed as required. In addition, all surveillance and LCO verifications reviewed were completed on schedule as required by TS and in accordance with licensee procedures. Extensive checklists were used to track completion of the various required surveillances and LCO verifications. The checklists included the date the activity was completed and by whom. These checklists provided acceptable documentation of the results and proper control of reactor operational tests and surveillances. All recorded results observed by the inspectors were within prescribed TS and procedure parameters and in close agreement with the previous surveillance results.

c. Conclusion

The surveillance logs, records, performance, and reviews satisfied TS and procedure requirements. The program for tracking and completing surveillance requirements was detailed and thorough.

5. Experiments

a. Inspection Scope (IP 69001)

To verify compliance with the licensee's program for conducting experiments and irradiations as outlined in TS Sections 3.10, 3.11, 4.3.5, and 6.5.4 and in various procedures, the inspectors reviewed selected aspects of:

- WSUNRC Irradiation Data Log sheets for the period from January 2009 to the present
- WSUNRC Reactor Operating Log (O.1) sheets from January 2009 to the present
- Experiment approvals documented on WSUNRC Form No. 1, entitled "Project Initiation Request Form," latest form revision dated March 2011, with the associated experiment overviews, safety reviews and analyses, isotope production data, accident analyses, and approvals
- SOP Number (No.) 1, "Standard Procedure For Use Of The Reactor," latest revision dated October 4, 2010
- SOP No. 2, "Standard Procedure For Performing Irradiations Using The Reactor," latest revision dated October 4, 2010
- SOP No. 3, "Standard Procedure For Performing Experiments Using The Reactor," latest revision dated October 4, 2010

b. Observations and Findings

The licensee classified experiments as either being "operational" or "non-operational" experiments. Operational experiments were those which required reactor control manipulation to measure reactor parameters or characteristics. These were typically those experiments that included routine reactor operations

and were covered by an SOP. Non-operational experiments were those which required the insertion of any apparatus, device, or material which was not a normal part of the core or experimental facilities into any of the facilities or in the beam line. These were generally those that were new or required special facilities or the modification of existing facilities. Operational experiments were usually approved by the Reactor Supervisor and the Facility Director after a review of the completed Experiment Request Form. Non-operational experiments were typically required to be reviewed and approved by the Reactor Safeguards Committee. It was noted that the experiments that were currently being conducted at the facility were classified as operational.

Various new experiments had been proposed since the last inspection. The inspector verified that new experiments were reviewed and approved by a Senior Reactor Operator and by either the Reactor Supervisor or the Facility Director. Certain experiments were also approved by the RSC when required. The inspector also verified that the experiments were completed under the supervision of the Reactor Supervisor and in accordance with TS requirements.

The inspectors reviewed the existing experiment and irradiation authorization documents, Irradiation Data Log sheets, and the Reactor Logbook, and interviewed staff members. It was noted that the information typically entered on the Irradiation Data Log sheets was now being entered into a data base developed by facility personnel.

The inspectors verified that the approved experiments and irradiations that were completed were installed, constrained, conducted, and removed as required by the TS. The appropriate data was recorded and the radioactive material produced was handled and controlled as required.

c. Conclusion

The conduct and control of experiments and irradiations met the requirements specified in the TS, the experiment and irradiation authorizations, and applicable procedures.

6. Committees, Audits and Reviews

a. Inspection Scope (IP 69001)

In order to verify that the licensee had established and conducted reviews and audits as required in TS Section 6.5, the inspector reviewed selected aspects of:

- WSU RSC meeting minutes for 2009, 2010, and to date in 2011
- Safety review and audit records documented on WSUNRC forms entitled, "Reactor Safeguards Committee Facility Records Quarterly Audit," for the period from April 2009 through the present
- WSU Annual Report entitled "Annual Report on the Operation of the Washington State University TRIGA Reactor" for the periods from July 1, 2008 through June 30, 2009, dated August 28, 2009

- WSU Annual Report entitled "Annual Report on the Operation of the Washington State University TRIGA Reactor" for the periods from July 1, 2009 through June 30, 2010, dated August 30, 2010

b. Observations and Findings

The RSC membership satisfied TS requirements and the Committee's procedural rules. The RSC, or a subcommittee thereof, was required to hold quarterly meetings each year. It was noted that four committee meetings were held in 2009, four committee meetings in 2010, and two had been held to date in 2011. This met the requirement of holding quarterly meetings specified in TS Section 6.5.

Review of the committee meeting minutes indicated that the RSC provided appropriate guidance and direction for reactor operations, and ensured suitable use and oversight of the reactor. Additionally, the annual review of the radiation protection program and the biennial reviews of the standard operating procedures, the emergency plan, and the security plan had been conducted and acceptably documented.

Since the last inspection, audits of reactor facility records and reviews of operating abnormalities, changes to procedures, equipment changes, and proposed tests or experiments had generally been completed and documented. The inspector noted that audits were conducted during the meetings held by the RSC.

c. Conclusion

The review and audit program was generally being completed acceptably by the RSC.

7. Emergency Preparedness

a. Inspection Scope (IP 69001)

To ascertain whether the licensee was acceptably implementing the various aspects of their emergency preparedness program, the inspectors reviewed selected aspects of:

- WSUNRC SOP No. 18, "Standard Procedure for Action in the Event of an Alarm" dated December 4, 2003
- Emergency Preparedness Plan for the WSU NRC dated June 24, 2010
- Emergency drills and exercises for the past two years
- Administrative Requirements Schedule Log (A.4) sheets
- Training records for licensee staff and support personnel
- Emergency response facilities, supplies, equipment, and instrumentation
- Offsite support as documented in the Letter of Agreement with the hospital

- WSUNRC Short Form Emergency Procedure, latest Rev. dated January 21, 2008
- WSUNRC SOP No. 6, "Standard Procedure in the Event of an Emergency Situation," dated October 4, 2010
- WSUNRC SOP No. 29, "Standard Procedure for Security and Emergency Plan Training for Nuclear Radiation Center, Radiation Safety Office, and Campus Police Personnel," dated May 17, 2005

b. Observations and Findings

The Emergency Plan (E-Plan) in use at the facility, entitled "Emergency Preparedness Plan for the Nuclear Radiation Center, Washington State University," was being reviewed and updated as required by TS.

Emergency facilities, instrumentation, and equipment were being maintained and controlled, and supplies were being inventoried as required in the E-Plan. The inspectors and a licensee representative conducted an inventory of one of the emergency kits in the facility to verify its contents were as stipulated in the E-Plan.

The Inspectors determined through records review and through interviews with licensee personnel that emergency responders were knowledgeable of the proper actions to take in case of an emergency. The agreement with the Pullman Regional Hospital, which had been updated April 30, 2010, was being maintained in effect. The inspectors accompanied the reactor supervisor on a tour of the decontamination facilities at Pullman Regional Hospital and discussed drills and training with the hospital Emergency Coordinator.

Communications capabilities with the various campus, city, and county support groups were acceptable and off-site support for the facility was verified to be acceptable and in accordance with the E-Plan. The alarm system had been tested weekly and monthly as stipulated in the Emergency Plan.

The inspectors determined that the emergency drills were being conducted as required by the E-Plan. The most recent drill, which had been conducted August 10, 2010, required the response of off-site support organizations. This included ambulance services, fire department and police department personnel. Critiques were written following the drill and they addressed problems noted during the conduct of the drill with assigned corrective actions.

c. Conclusion

The emergency response program was conducted in accordance with the requirements stipulated in the Emergency Preparedness Plan.

8. Maintenance Logs and Records

a. Inspection Scope (IP 69001)

To verify compliance with TS Sections 3, 4, and 5, the inspector reviewed selected aspects of:

- Reactor Operations Summary Sheets for 2010 and 2011 to date
- Control Element Inspection Log (O.5) for 2011
- Core Reactivity Parameters Log (O.7) Monthly 2010 thru June 2011
- Maintenance Log, Volume 1 (O.8), pages 117-130
- Preventative Maintenance Checklists (O.2) for 2010 and to date in 2011
- RSC meeting minutes for the past two years through the date of the inspection
- Power Calibration Log forms (also in O.2) for 2010 through the date of the inspection
- Monthly Console and Auxiliary Equipment Checklist Log (O.9) containing documentation of equipment maintenance as indicated on the WSU Nuclear Radiation Center Form No. 40, entitled "Console Auxiliary Equipment Maintenance Checklist," latest form revision dated September 2008
- WSUNRC Reactor Operating Log (O.1) sheets from January 2010 through July 2011
- WSU Annual Report entitled "Annual Report on the Operation of the Washington State University TRIGA Reactor" for the periods from July 1, 2009 through June 30, 2010, dated August 30, 2010
- WSUNRC Administrative Procedure, Section No. 5, entitled "Surveillance Documentation Review," (not dated)
- WSUNRC Administrative Procedure, Section No. 6, entitled "Performance of Maintenance Activities," (not dated)
- WSU Nuclear Radiation Center SOP No. 5, "Standard Procedure for Performing Preventive Maintenance on the Reactor and Associated Equipment," dated October 4, 2010
- WSUNRC SOP No. 8, "Standard Procedure for Control Element Maintenance, Removal, and Replacement," dated February 17, 1995
- WSUNRC SOP No. 13, "Standard Procedure for Performing Power Calibrations," dated March 6, 2008
- WSU Nuclear Radiation Center SOP No. 14, "Standard Procedure for Alignment of the Fuel Temperature System," dated November 29, 2006
- WSUNRC SOP No. 15, "Standard Procedure for Control Element Calibration," dated December 4, 2003
- WSUNRC SOP No. 23, "Standard Procedure for Pool Water Analysis," dated September 29, 2005
- WSUNRC SOP No. 31, "Standard Procedure for the Transfer of Non-Fuel Devices and Experimental Apparatus into and out of the Reactor Pool," dated September 29, 2005

b. Observations and Findings

The Inspectors noted that routine and preventive maintenance was controlled by, and documented in, the maintenance or reactor operations logs and the monthly Console Auxiliary Equipment Maintenance Checklists consistent with the TS and licensee procedures. Unscheduled maintenance or equipment repair was reviewed to determine if the work required a 50.59 evaluation. Verifications and operational systems checks were performed following completion of the maintenance to ensure system operability before the equipment was returned to service.

c. Conclusion

The maintenance logs, records, performance, and reviews satisfied TS and procedure requirements.

9. Fuel Handling

a. Inspection Scope (IP 69001)

The inspectors reviewed selected aspects of the following to ensure that the licensee was complying with TS Sections 4.4, 5.1, 5.2, 6.8, and 6.9:

- Core Change Log (O.6)
- Core Reactivity Parameters Log (O.7)
- Fuel handling equipment and instrumentation
- Selected WSUNRC Reactor Log sheets from 2009 through the present
- WSU Special Nuclear Material Physical Inventory Log sheets from 2008 through the present
- WSUNRC Administrative Procedure, Section No. 9, entitled "Special Nuclear Material Accountability Plan," dated May 1989
- WSUNRC SOP No. 7, "Standard Procedure for Core Changes and Fuel Movement," dated August 21, 2007
- WSUNRC SOP No. 8, "Standard Procedure for Control Element Maintenance, Removal, and Replacement," dated February 17, 1995

b. Observations and Findings

Procedures for refueling, fuel movement, and TS required surveillances ensured controlled operations for Core 35-A, which was a mixed core of new 30/20 low-enriched uranium (LEU) fuel elements and standard 8.5/20 LEU fuel elements. A detailed plan for performing fuel movement was required to be developed prior to each fuel movement operation.

The inspectors noted that the data recorded for fuel movements that had been conducted in the past were acceptable and were required to be cross referenced in the operations logs. Log entries, indicating fuel movements, were completed under the direct supervision of an SRO as required.

Through records review and interviews with licensee personnel, the inspectors determined that various fuel movement operations had been conducted since the last NRC inspection in this area occurred at the facility in August 2009. The most significant fuel movement since the last inspection involved removing various fuel bundles from the core to allow for inspection of the pulse rod. The inspectors verified that a detailed plan had been completed for the fuel movement activities as required. The plan had been reviewed and approved by the Reactor Supervisor and by the Facility Director as required.

c. Conclusion

The fuel handling activities and documentation were as required by facility TS and procedures.

10. Follow-up on Previously Identified Issues

a. Inspection Scope (IP 92701)

The inspector reviewed the licensee's actions taken in response to three previously identified Inspector Follow-up Items (IFIs).

b. Observation and Findings

- (1) IFI 50-027/2009-201-01 - Follow-up on the issue of holding the required RSC and/or subcommittee meetings every year as required by TS Section 6.5.3.

During an inspection of the facility by the NRC in August 2009, the inspector reviewed the RSC membership and the Committee's procedural rules. The RSC, or a subcommittee thereof, was required to hold quarterly meetings each year. It was noted that only three committee meetings were held in 2007 and only one had been held to date in 2009. The licensee was informed that the issue of holding the required quarterly RSC meetings every year would be identified as an IFI.

During this inspection, the inspectors reviewed the meeting frequency of the RSC. It was noted that the committee or a subcommittee thereof had met quarterly for the past two years and was "on schedule" to hold the required four meetings this year. Because the licensee's RSC was meeting at the required frequency, this issue is considered closed.

- (2) IFI 50-027/2009-201-02 - Follow-up on the licensee's actions to conduct reviews of the SOPs and the Emergency Plan every two years as required by the TS Section 6.5.4.
- (3) IFI 50-027/2009-201-03 - Follow-up on the licensee's actions to correct the differences between the Emergency Plan and SOP No. 6.

c. Conclusions

Three IFIs identified during a previous inspection were closed.

11. Exit Interview

The inspection scope and results were summarized on August 4, 2011, with members of licensee management. The inspectors described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee.

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel

C. Hines	Reactor Supervisor
M. King	Reactor Technician I/Reactor Operator
D. Wall	Director, Nuclear Radiation Center
K. Henry	Reactor Operator
J. Unverferth IV	Reactor Operator
P. Wilson	Administrative Assistant
A. Donley	Reactor Operator

INSPECTION PROCEDURES USED

IP 69001	Class II Research and Test Reactors
IP 92701	Follow-up

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

50-027/2009-201-01	IFI	Follow-up on the issue of holding the required RSC and/or subcommittee meetings every year as required by TS Section 6.5.3.
50-027/2009-201-02	IFI	Follow-up on the licensee's actions to conduct reviews of the SOPs and the Emergency Plan every two years as required by the TS Section 6.5.4.
50-027/2009-201-03	IFI	Follow-up on the licensee's actions to correct the differences between the Emergency Plan and SOP No. 6.

PARTIAL LIST OF ACRONYMS USED

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ALARA	As Low As Reasonably Achievable
DDE	Deep dose equivalent
IP	Inspection Procedure
mrem/hr	millirem per hour
NRC	U.S. Nuclear Regulatory Commission
RO	Reactor Operator
RSC	Reactor Safeguards Committee
RSO	Radiation Safety Office

SDE	Shallow dose equivalent
SOP	Standard Operating Procedure
SRO	Senior Reactor Operator
TLD	Thermoluminescent dosimeter
TS	Technical Specifications
WSU	Washington State University
WSUNRC	Washington State University Nuclear Radiation Center