

May 22, 2006

Dr. Joseph Cecchi, Dean
School of Engineering
University of New Mexico
Albuquerque, NM 87131-1341

SUBJECT: NRC ROUTINE, ANNOUNCED INSPECTION REPORT NO. 50-252/2006-201

Dear Dr. Cecchi:

This letter refers to the inspection conducted on April 25-27 and May 9, 2006 at your AGN-201M 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, the NRC has identified a violation of NRC regulations that was evaluated as having very low safety significance. This violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001 and the NRC Inspector. 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 Mr. Kevin M. Witt at 301-415-4075.

Sincerely,

/RA/

Brian E. Thomas, Branch Chief
Research and Test Reactors Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-252
License No. R-102
Enclosure: NRC Inspection Report No. 50-252/2006-201
cc w/enclosure: See next page

University of New Mexico

Docket No. 50-252

cc:

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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: 50-252

License No: R-102

Report No: 50-252/2006-201

Licensee: University of New Mexico

Facility: AGN-201M Reactor

Location: Albuquerque, New Mexico

Dates: April 25-27 and May 9, 2006

Inspector: Kevin M. Witt

Approved by: Brian E. Thomas, Branch Chief
Research and Test Reactors Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

EXECUTIVE SUMMARY

University of New Mexico AGN-201M Research Reactor Facility NRC Inspection Report No.: 50-252/2006-201

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, operator requalification, surveillance and limiting conditions for operations, experiments, radiation protection program, design changes, committees, audits and reviews, emergency preparedness, maintenance logs and records, and fuel handling.

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 organization and staffing were consistent with Technical Specification requirements.

Operations Logs and Records

- Operational activities were consistent with applicable Technical Specification and procedural requirements.

Procedures

- Procedural control and implementation satisfied Technical Specification requirements.

Operator Requalification

- The licensee's requalification program in general was implemented satisfactorily, the program was up-to-date, and plan requirements were met. One Non-Cited Violation was issued for failure to follow the NRC approved requalification program.

Surveillance and Limiting Conditions for Operations

- The licensee's program for completing surveillance inspections satisfied Technical Specification and licensee administrative controls.

Experiments

- The approval and control of experiments met Technical Specification and applicable regulatory requirements.

Radiation Protection Program

- Surveys were being completed and documented acceptably to permit evaluation of the radiation hazards present.
- Postings met the regulatory requirements specified in 10 CFR Parts 19 and 20.

- Personnel dosimetry was being worn as required and doses were well within the licensee's procedural action levels and NRC's regulatory limits.
- Radiation monitoring equipment was being maintained and calibrated as required.
- The Radiation Protection Program being implemented by the licensee satisfied regulatory requirements.
- Environmental monitoring satisfied license and regulatory requirements.

Design Changes

- Based on the records reviewed, the inspector determined that the licensee's design change program was being implemented as required.

Committees, Audits and Reviews

- Review and oversight functions required by the Technical Specifications were acceptably completed by the Reactor Safety Advisory Committee.

Emergency Preparedness

- The emergency preparedness program was conducted in accordance with the requirements stipulated in the Emergency Plan. One Inspector Follow-up Item was issued to follow-up on the licensee's commitment to conduct a tour of the facility for the City of Albuquerque Fire Station #3.

Maintenance Logs and Records

- Maintenance logs, records, and performance satisfied Technical Specification and procedure requirements.

Fuel Handling

- Fuel handling and control rod inspection activities were completed and documented as required by Technical Specification and facility procedures.

Follow-up on Previous Open Items

- All open items identified in previous inspection reports were closed.

REPORT DETAILS

Summary of Plant Status

The licensee's Aerojet General Nucleonics-201M (AGN-201M) research reactor, licensed to operate at a maximum steady-state thermal power of 5 Watts (5 W), continues to be operated in support of operator training, surveillances, and classroom demonstrations. During the inspection, the reactor was operated for training purposes. The licensee indicated that there has been no transportation of radioactive materials since the previous inspection.

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) Sections 6.1 and 6.2:

- organization and staffing
- qualifications
- management responsibilities
- administrative controls
- Reactor Operation and Training Manual (ROTM), Section II, Administration, revised January 2005
- ROTM, Section II, Table II, Duties, revised January 2005
- ROTM, Appendix III-B, AGN-201M Reactor Operations Log, revised January 2005
- Completed AGN-201M Reactor Operations Logs, dated from December 16, 2005 to present
- 2004 Annual Report for the AGN-201M Reactor for dates July 1, 2003 - June 30, 2004
- 2005 Annual Report for the AGN-201M Reactor for dates July 1, 2004 - June 30, 2005
- TS for the University of New Mexico (UNM) AGN-201M Reactor, Amendment No. 4, dated November 7, 1995

b. Observations and Findings

The UNM AGN-201M Research Reactor Facility organizational structure and the responsibilities of the reactor management and staff had not changed since the last inspection (see NRC Inspection Report No. 50-252/2004-201). Current licensed staff consisted of the Chief Reactor Supervisor (CRS), two reactor supervisors (RSs), and three reactor operators (ROs). The CRS and the two RSs are qualified Senior Reactor Operators (SROs). The ROs are all full time students. The licensee is currently preparing for several students to become licensed operators and the inspector verified that the licensee is conducting the appropriate training for the operators in training.

The UNM 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. Review of

records verified that management responsibilities were administered as required by TS and applicable procedures. The annual reports summarized the required information and was issued at the frequency specified in TS Section 6.9.1. No special reports were submitted pursuant to TS Sections 6.9.2 or 6.9.3.

c. Conclusion

The 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 6.10:

- ROTM, Section II, Table II, Duties, revised January 1997
- ROTM, Section III, Operating Procedures, revised January 1997
- ROTM, Appendix III-A, Request for Use of the UNM AGN-201M Reactor, revised January 2005
- ROTM, Appendix III-B, AGN-201M Reactor Operations Log, revised January 2005
- Completed Requests for Use forms, dated from January 14, 2004 to present
- Completed AGN-201M Reactor Operations Logs, dated from December 16, 2005 to present
- 2004 Annual Report for the AGN-201M Reactor for dates July 1, 2003 - June 30, 2004
- 2005 Annual Report for the AGN-201M Reactor for dates July 1, 2004 - June 30, 2005

b. Observations and Findings

Reactor operations were carried out following written procedures and TS requirements. The inspector verified that reactor operating characteristics, and other TS and procedure required entries, were recorded on the operations log. A review of the logs indicated that TS operational limits had not been exceeded. The information required for the pre-critical start-up checklist and the shutdown checklist are included in the operations log. Operations records confirmed that shift staffing met the minimum requirements for duty personnel. The inspector determined that reactor operations were carried out following written procedures.

Unintentional scrams that occurred during reactor operations were recorded in the operations log. There were several scrams that had occurred during the inspection period, all of which were caused by incidental noise in the safety channels. When a scram occurs, the root cause analysis is completed by the RS on duty before the resumption of operations.

The inspector observed the reactor staff operating the reactor on April 26, 2006, and reviewed the Operations Log Form. The inspector noted that the licensed operator and trainee on duty were knowledgeable and competent. Observation of operational activities also confirmed that reactor operations were carried out in accordance with written procedures and TS requirements.

c. Conclusions

Operational activities were consistent with applicable TS and procedural requirements.

3. Procedures

a. Inspection Scope (IP 69001)

The inspector reviewed the following to ensure that the procedural control requirements of TS Section 6.3 were being met:

- administrative controls
- procedural implementation
- ROTM, Section III, Operating Procedures, revised January 2005
- Request for Approval to Perform Critical Experiment as a Regular Teaching Laboratory Experiment (Fuel Movement Procedures), dated September 25, 1967
- selected administrative and operations procedures
- records of changes and temporary deviations to procedures
- Reactor Safety Advisory Committee (RSAC) meeting minutes, dated October 28, 2004, April 27, 2005 and December 12, 2005

b. Observations and Findings

The inspector determined that written procedures were available for the activities delineated in TS Section 6.3 and were approved by the RSAC before they were implemented. The clarity and detail in the procedures was acceptable. Temporary changes to the procedures that do not change their original intent can be authorized by the CRS and must be subsequently reviewed by the RSAC. AGN-201M reactor personnel conducted TS activities in accordance with applicable procedures. The ROTM has been revised since the previous inspection and is awaiting RSAC approval. The CRS has approved the temporary use of the new ROTM, which contains all of the facility procedures.

c. Conclusions

Procedural control and implementation satisfied TS requirements.

4. Operator Requalification

a. Inspection Scope (IP 69001)

The inspector reviewed the following to verify compliance with the requirements in 10 CFR Part 55 and the requalification program:

- Operator and Senior Operator Requalification Program, dated December 20, 2004
- ROTM, Appendix III-A, Request for Use of the UNM AGN-201M Reactor, revised January 2005
- ROTM, Appendix III-B, AGN-201M Reactor Operations Log, revised January 2005
- Completed Requests for Use forms, dated from January 14, 2004 to present
- Completed AGN-201M Reactor Operations Logs, dated from December 16, 2005 to present
- Written Requalification Examination, dated January 2004
- Requalification Training Records for the January 1, 2003 - December 31, 2004 Requalification Cycle
- Requalification Training Records for the January 1, 2005 - December 31, 2006 Requalification Cycle
- operator active license status
- operator physical examination records
- reactivity manipulation records

b. Observations and Findings

The licensee's requalification program is described in the program submitted to the NRC. The inspector reviewed the requalification program records of the three SROs currently employed at the facility. There are three ROs licensed to operate the reactor and the licensee has stated that they are all inactive. Upon further investigation, the inspector determined that one of the ROs no longer intends to utilize the license at the facility. The licensee stated that they will send a letter to the NRC requesting termination of the license.

The CRS is responsible for the implementation of the requalification program and administers all tests. The inspector verified that all of the operators' licenses were current. Records showed that operators were given operations examinations annually as required. The inspector determined that the licensee did not follow all aspects of the requalification program by failing to administer a written requalification examination to the licensed operators on an annual basis. The most recent written requalification examination was administered January 2004, which is a period of 28 months. The licensee claimed they understood that the requalification program was the same as the NRC regulations, which requires a requalification written examination on a biennial basis. The licensee was informed that failure to follow the NRC approved requalification program was an apparent violation of 10 CFR 55.59(a)(1). However, due to different requirements in the NRC regulations and the NRC approved requalification plan,

it is being treated as a Non-Cited Violation (NCV), consistent with Section VII.B.6 of the NRC Enforcement Policy (NCV 50-252/2006-201-01).

The inspector verified that physical examinations of the operators were conducted biennially as required. The inspector also verified that the operators were reviewing the contents of all abnormal and emergency procedures on an annual basis. The number of hours in the facility performing licensed duties were recorded on the training records to ensure that all operators met the required minimum number of hours operating the reactor. The inspector confirmed that the requalification program was being administered in a manner that sufficiently maintains the effectiveness of all licensed operators.

c. Conclusions

The licensee's requalification program in general was implemented satisfactorily, the program was up-to-date, and plan requirements were met. One NCV was issued for failure to follow the NRC approved requalification program.

5. Surveillance and Limiting Conditions for Operation

a. Inspection Scope (IP 69001)

The inspector reviewed the following to ensure that the surveillance requirements and limiting conditions for operations (LCO) specified in TS Section 4.0 were met:

- ROTM, Section III.E.1, Power Calibration, revised January 2005
- ROTM, Appendix III-A, Request for Use of the UNM AGN-201M Reactor, revised January 2005
- ROTM, Appendix III-B, AGN-201M Reactor Operations Log, revised January 2005
- ROTM, Section IV, Maintenance and Inspections, revised January 2005
- Completed Requests for Use forms, dated from January 14, 2004 to present
- Completed AGN-201M Reactor Operations Logs, dated from December 16, 2005 to present
- Completed AGN-201M Reactor Monthly Inspection forms from January 21, 2004 to present
- Completed AGN-201M Annual Reactor Maintenance forms, dated August 5, 2004 and August 9, 2005
- Nuclear Engineering Laboratory Isotope Production Logs from September 20, 2004 to December 9, 2005

b. Observations and Findings

The inspector noted that daily, monthly, semiannual, and annual checks, tests, and/or calibrations for TS-required surveillance were completed as required. The LCO verifications were completed on schedule and in accordance with licensee procedures. All of the recorded results were within the TS and

procedurally prescribed parameters. The records and logs were noted to be complete and were being maintained as required. The procedures for the surveillances provided clear and concise direction and control of reactor operational tests and surveillances.

The inspector observed the licensee complete the monthly maintenance form for TS required items on April 26, 2006. All of the items on the checklist were carried out appropriately and the personnel conducting the tests did so in a safe and knowledgeable manner. The inspector verified that all of the checks conducted were in compliance with TS required values and parameters.

c. Conclusions

The licensee's program for completing surveillance inspections satisfied TS and licensee administrative controls.

6. Experiments

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of the following to verify compliance with TS Section 3.3:

- ROTM, Section III, Operating Procedures, revised January 1997
- ROTM, Appendix III-A, Request for Use of the UNM AGN-201M Reactor, revised January 2005
- ROTM, Appendix III-B, AGN-201M Reactor Operations Log, revised January 2005
- ROTM, Section IV, Maintenance and Inspections, revised January 2005
- Completed Requests for Use forms, dated from January 14, 2004 to present
- Completed AGN-201M Reactor Operations Logs, dated from December 16, 2005 to present
- Nuclear Engineering Laboratory Isotope Production Logs from September 20, 2004 to December 9, 2005
- experimental administrative controls and precautions
- approved reactor experiments documentation
- review and approval process for experiments
- AGN-201 Experiment No. 1, Approach to Critical
- AGN-201 Experiment No. 2, Reactor Period, Excess Reactivity and Control Rod Calibration
- AGN-201 Experiment No. 3, Importance Functions Measurements
- AGN-201 Experiment No. 4, Reactor Neutron Temperature
- AGN-201 Experiment No. 5, Flux Distribution and Power Calibration

b. Observations and Findings

The most frequently used experimental facility is the glory hole position. Samples can be loaded and unloaded from the sample irradiation position while

the reactor is at the desired power level. Samples that have been irradiated at UNM include various metal foils and detectors. Other experiments conducted at the AGN-201M reactor facility include sub-critical multiplication and other reactor physics demonstrations. The CRS approves all routine samples to be irradiated in accordance with the TS limitations. No new experiments had been initiated, reviewed, or approved since the previous inspection at the facility. If any new experiments were to be initiated, they would be reviewed and approved by the RSAC. The inspector confirmed that all of the experiments conducted were in accordance with TS limits and procedural requirements.

c. Conclusions

The approval and control of experiments met TS and applicable regulatory requirements.

7. Radiation Protection Program

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 Procedure RSP-50, "UNM SHEA Radiation Dosimetry Program" dated June 1998
- Radiation Safety Form RSF-50-3, "Dosimetry Program Orientation" dated August 1999
- Radiation Safety Procedure RSP-60, "Radiation Safety Training" dated April 1998
- Radiation Safety Form RSF-60-1, "Radiation Worker's Training & Experience" dated June 1998
- UNM Radiation Safety Manual (RSM), revised July 1999
- quarterly dosimetry records for staff and students for 2004 and 2005
- quarterly dosimetry records for reactor room for 2004 and 2005
- AGN-201 Monthly Non-Operational Radiation Survey, dated from January 8, 2004 to present
- Nuclear Engineering AGN-201 Annual Reactor Radiation Survey, dated February 7, 2005 and March 2, 2006
- Instrument Calibration Summary for the Area Radiation Monitors, dated April 21, 2004 and April 24, 2006
- UNM Safety Health & Environmental Affairs Radiation Safety Division Annual Report (November 2003 - October 2004), dated December 7, 2004
- UNM Safety Health & Environmental Affairs Radiation Safety Division Annual Report (November 2004 - October 2005), dated December 6, 2005
- maintenance and calibration of radiation monitoring equipment
- organization and staffing
- radiological signs and posting

b. Observations and Findings

The Radiation Safety Officer (RSO) applies the radiation protection program uniformly to the two licensed activities on campus (broad scope and the reactor). The licensee's program for radiological health and safety related to the reactor license was evaluated during this inspection.

(1) Surveys

The inspector reviewed monthly radiation and contamination surveys of the licensee's controlled areas as well as radiation wipe surveys completed by the RSO. The surveys had been completed in accordance with the applicable procedure. The results were documented on the appropriate forms, evaluated as required, and corrective actions taken when readings or results exceeded set action levels. The survey also included a checklist of items to be verified such as the adequacy of warning signs and postings in the area. The number and location of survey points was adequate to characterize the radiological conditions. Surveys by the RSO were conducted in accordance with the appropriate procedure and logged on the appropriate forms. The RSO also completes an annual radiation survey of the facility while the reactor is at power in accordance with TS 4.4.c. No elevated readings were discovered.

(2) Postings and Notices

The inspector reviewed the postings required by 10 CFR Part 19 at the entrances to various controlled areas including the Reactor Facility, and radioactive material storage areas. The postings were acceptable and indicated the radiation and contamination hazards present. The facility's radioactive material storage areas were noted to be properly posted. No unmarked radioactive material was found in the facility.

(3) Dosimetry

The licensee used a National Voluntary Laboratory Accreditation Program-accredited vendor, to process personnel dosimetry. Through direct observation, the inspector determined that dosimetry was used in an acceptable manner by facility personnel. For visitors to the facility, a thermoluminescent dosimeter (TLD) is generally issued to a group of individuals. Records indicate that no abnormal readings were obtained.

An examination of the records for the inspection period showed that all exposures were well within NRC limits and within licensee action levels. No students or staff associated with the facility received an annual deep dose exposure greater than 114 millirem (mrem) for 2004 and 2005. The licensee investigates any dosimetry readings that indicate a quarterly exposure above 600 mrem for whole body and 6,000 mrem for extremities.

(4) Radiation Monitoring Equipment

The calibration of portable survey meters and friskers was completed both in house and by a company that specializes in calibrations. Fixed area radiation detectors were calibrated at the facility using a portable source. The calibration records of portable survey meters and fixed radiation detectors in use at the facility were reviewed. Calibration frequency met the requirements established in TS 4.4.a and records were being maintained as required. The inspector observed that proper precautions are always used to maintain doses for calibrations as low as reasonably achievable (ALARA).

(5) Radiation Protection Program

The inspector verified that the radiation protection program was being reviewed annually as required. No issues related to the radiation protection program at UNM were identified in the review of the program.

The RSM requires that all personnel who work with radioactive materials receive training in radiation protection, policies, procedures, requirements, and the facilities prior to having unescorted access at the facility. The Radiation Safety Division is responsible for conducting the training and all of the training is typically conducted with a radiation safety specialist. A test is administered at the end of the training to verify that the individuals understood the material presented. The training covered the topics required to be taught in 10 CFR Part 19 and the review of training materials and tests indicated that the staff were instructed on the appropriate subjects.

(6) Facility Tours

The inspector toured the reactor facility and the accompanying facilities. Control of radioactive material and control of access to radiation and high radiation areas were acceptable. The postings and signs for these areas were appropriate. The inspector also determined that there were no measurable releases of gaseous or liquid radioactive material from the research reactor facility.

(7) Environmental Monitoring

The licensee ensures compliance with NRC regulations for environmental monitoring by ensuring that all doses at the site boundary are less than the dose limits specified in 10 CFR 20.1301. Several TLDs are strategically placed in several locations around the perimeter of the facility. Records for 2004 and 2005 indicate slightly elevated doses that are generally below the applicable requirements. The licensee has stated that the levels measured outside of the facility are within the regulatory requirements. There were no liquid nor gaseous effluents discharged from the facility for 2004 and 2005.

c. Conclusions

The inspector determined that: (1) surveys were being completed and documented acceptably to permit evaluation of the radiation hazards present, (2) postings met the regulatory requirements specified in 10 CFR Parts 19 and 20, (3) personnel dosimetry was being worn as required and doses were well within the licensee's procedural action levels and NRC's regulatory limits, (4) radiation monitoring equipment was being maintained and calibrated as required, (5) the RPP being implemented by the licensee satisfied regulatory requirements, and (6) Environmental monitoring satisfied license and regulatory requirements

8. 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:

- facility design changes and records for the past two years
- facility configuration and associated records
- ROTM, Section II.A.3, Reactor Safety Advisory Committee, revised January 2005
- RSAC meeting minutes, dated October 28, 2004, April 27, 2005 and December 12, 2005
- Completed Reactor Maintenance Log Sheet for Replacement of Power Channel Can, dated April 2005
- 2004 Annual Report for the AGN-201M Reactor for dates July 1, 2003 - June 30, 2004
- 2005 Annual Report for the AGN-201M Reactor for dates July 1, 2004 - June 30, 2005

b. Observations and Findings

Through review of applicable records and interviews with licensee personnel, the inspector determined that no significant changes had been initiated and/or completed at the facility since the last inspection. The inspector verified that administrative controls were in place that required the appropriate review and approval of all changes prior to implementation. The inspector reviewed a change of the power channel #1 detector can to polyethylene. Channel #1 is not a TS required channel and the change did not affect any safety systems. It appeared that close controls were maintained over the change and subsequent testing showed that more efficient operations are obtained with the newer can. Post installation verification testing of the system was thorough and adequately documented. The licensee intends on completing this same activity in the near future for the other power channels in order to eliminate any problems with corrosion of the current detector cans.

c. Conclusions

Based on the records reviewed, the inspector determined that the licensee's design change program was being implemented as required.

9. 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 and 10 CFR 50.59 were being completed by the RSC:

- ROTM, Section II.A.3, Reactor Safety Advisory Committee, revised January 2005
- RSAC meeting minutes, dated October 28, 2004, April 27, 2005 and December 12, 2005

b. Observations and Findings

The RSAC is defined in the TSs and the inspector verified that the committee is following all aspects of the requirements. The RSAC had semiannual meetings and a quorum was always present as required. Review of the minutes indicated the RSAC provided guidance, direction and oversight, and ensured suitable use of the reactor. The minutes provided an acceptable record of RSAC review functions and of RSAC safety oversight of reactor operations.

The RSAC conducted audits of the items required by TS 6.4.3 during the semiannual meetings. Minor issues that were not safety related were noted in the meeting minutes and the inspector observed that any safety related items were properly controlled. The RSAC audit of the requalification records was not recorded in the meeting minutes. The licensee stated that the RSAC reviewed all of the requalification records in accordance with the timeliness requirements in the TSs. The inspector noted that there were no significant issues discovered and that the licensee took appropriate corrective actions in response to the audit findings. The inspector noted that the safety reviews and audits, and the associated findings, were acceptably detailed and that the licensee responded and took corrective actions as needed.

c. Conclusions

Review and oversight functions required by the TSs were acceptably completed by the RSAC.

10. Emergency Preparedness

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of:

- Emergency Plan (E-Plan) for the UNM AGN-201M Reactor Facility, dated February 1, 2001
- ROTM, "Section V Emergency Procedures," revised January 2005
- E-Plan Appendix A, Emergency Organization and Personnel, dated August 9, 2005
- E-Plan Appendix B, Notification Roster, dated August 9, 2005
- Reactor Emergency Drill (narrative and critiques), dated February 11, 2005 and February 7, 2006
- emergency response facilities, supplies, equipment and instrumentation
- Letter of Agreement (LOA) with the Albuquerque Ambulance Service, dated July 2, 2002
- LOA with the UNM Hospital, dated August 16, 2005
- LOA with the City of Albuquerque Fire Department, dated August 25, 2005

b. Observations and Findings

The inspector reviewed the E-Plan in use at the AGN-201M reactor facility and verified that the E-Plan was being properly implemented at the facility. The inspector reviewed the emergency facilities, instrumentation, and equipment and verified that the off-site emergency response equipment was as described in the E-Plan. The inspector verified that several LOAs had been established with the City of Albuquerque Fire Department, the UNM Hospital, and the Albuquerque Ambulance Service. The inspector noted that the LOA with the Albuquerque Ambulance Service states that they will provide decontaminated individuals transport to the UNM hospital. The licensee states that this service is not useful to the reactor facility in the event of an emergency, since urgent medical care is more important than slight radioactive contamination. The licensee says that the Albuquerque Fire Department is able to transport contaminated individuals to the hospital.

Through direct observation, records review, and interviews with emergency organization personnel, the inspector determined that they were capable to respond, and knowledgeable of the proper actions to take in case of an emergency. The facility staff is responsible for responding to an emergency during all hours and making initial assessment and corrective and protective actions. The responsibility and authority for directing and coordinating emergency response activities are assigned to the CRS, acting as the emergency director. All facility personnel receive annual emergency response training. The inspector verified that the licensee has continually reviewed the E-Plan, conducted an inventory of the decontamination equipment, and checked the emergency siren monthly.

Emergency drills had been conducted annually as required by the E-Plan. The drill for 2004 and 2005 were both practical exercises and basically tested the notification of emergency personnel. Critiques were written and discussed following the drills to document any problems identified during the exercises. During the most recent drill, the licensee discovered that the emergency procedures do not apply to all possible emergencies. The licensee is currently in the process of re-writing the emergency procedures to adapt to all potential emergency situations.

The inspector visited the City of Albuquerque Fire Station #3 on April 26, 2006, and talked to the Captain about the supplies and equipment at this support site that would be available in case of an emergency. The Captain stated that they had limited radiation training and if additional support is needed, a nearby Hazardous Materials Team (HAZMAT) can respond. The Captain also stated it may be useful to have a periodic tour of the facility to orient themselves with hazards contained in the building. The RSO who was present at the meeting agreed that a periodic facility tour would be useful to the fire department. This issue will be considered by the NRC as an Inspector Follow-up Item (IFI) and will be reviewed during the next inspection at the facility (IFI 50-252/2006-201-02). Other than this issue, there appeared to be a good working relationship between the licensee and the fire department. The inspector confirmed that the fire department was well prepared to handle a variety of situations that could happen at the AGN-201M reactor facility.

c. Conclusions

The emergency preparedness program was conducted in accordance with the requirements stipulated in the E-Plan. One IFI was issued to follow-up on the licensee's commitment to conduct a tour of the facility for the City of Albuquerque Fire Station #3.

11. Maintenance Logs and Records

a. Inspection Scope (IP 69001)

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

- ROTM, Appendix III-B, AGN-201M Reactor Operations Log, revised January 2005
- ROTM, Section IV, Maintenance and Inspections, revised January 2005
- Completed AGN-201M Reactor Operations Logs, dated from December 16, 2005 to present
- Completed AGN-201M Reactor Monthly Inspection forms from January 21, 2004 to present
- Completed AGN-201M Annual Reactor Maintenance forms, dated August 5, 2004 and August 9, 2005
- Completed Reactor Maintenance Log Sheet for Replacement of Power Channel Can, dated April 2005

- 2004 Annual Report for the AGN-201M Reactor for dates July 1, 2003 - June 30, 2004
- 2005 Annual Report for the AGN-201M Reactor for dates July 1, 2004 - June 30, 2005

b. Observations and Findings

The inspector reviewed the maintenance records related to 2004 and 2005 scheduled and unscheduled preventive and corrective maintenance activities. Routine/preventive maintenance was controlled and documented in the maintenance log sheets. For all routine maintenance items where a like for like replacement is made, the activity is documented on the monthly or annual maintenance checklist. For all maintenance activities requiring a design change, the activity is documented on the reactor maintenance log sheet. These documents indicated that all maintenance activities were controlled and documented in accordance with the requirements in 10 CFR 50.59.

All maintenance of reactor systems were reviewed by the CRS. Implementation of changes to equipment, systems, tests or experiments are generally done by the staff at the facility. After all maintenance items are completed, system operational checks are performed to ensure the affected systems function before returning them to service. During a facility tour, the inspector noted that the Control Room and Reactor Room equipment was operational.

c. Conclusions

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

12. Fuel Handling

a. Inspection Scope (IP 69001)

To verify that TS and procedural requirements were being met, the inspector reviewed selected aspects of:

- ROTM, Section III, Operating Procedures, revised January 1997
- ROTM, Appendix III-B, AGN-201M Reactor Operations Log, revised January 2005
- Completed AGN-201M Reactor Operations Logs, dated from December 16, 2005 to present
- Completed Fuel Addition Data sheets, dated February 9, 2006
- Request for Approval to Perform Critical Experiment as a Regular Teaching Laboratory Experiment (Fuel Movement Procedures), dated September 25, 1967
- fuel handling equipment and instrumentation
- fuel movement records

b. Observations and Findings

The licensee conducts fuel movements for class demonstrations. One of the experiments is an approach to criticality, which requires the fuel to be removed and inserted into the core in various stages. The inspector determined that the licensee was maintaining the records of the various fuel movements that had been completed and verified that the movements were conducted and recorded in compliance with procedure. Fuel movement entries on the fuel addition data sheets clearly identified, as required by procedure, that a minimum of two persons were present when fuel was being moved. The inspector determined that the procedures and the controls specified for these operations were acceptable.

c. Conclusions

Fuel handling and control rod inspection activities were completed and documented as required by TS and facility procedures.

13. Follow-up on Previous Open Items

a. Inspection Scope (IP 69001)

The inspector reviewed the actions taken by the licensee following identification of one IFI during a previous inspection.

b. Observations and Findings

- (1) IFI 50-252/2003-202-01 - Follow-up on the licensee's commitment to add the requirement for announced, non-duty hours tests of the electronic surveillance system each semester to the Monthly Maintenance Checklist.

NRC Inspection Report No. 50-252/2003-202, dated November 18, 2003, outlined the situation. During that inspection, the inspector noted that all of the documentation for announced, non-duty hours tests of the electronic surveillance system could not be found. When asked about this deficiency, the licensee acknowledged the problem and committed to add this requirement to the Monthly Reactor Inspection/Maintenance Checklist.

During this inspection, the inspector confirmed that the licensee had properly been maintaining documentation of these checks on the monthly maintenance checklist. This issue is considered closed.

c. Conclusions

All open items identified in previous inspection reports were closed.

14. Exit Meeting

The inspector presented the inspection results to licensee management at the conclusion of the inspection on April 27, 2006. A follow-up telephone conference was held on May 9, 2006 to discuss further results of the inspection. The inspector discussed the findings 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 inspection.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Becker, Health Physicist
M. Boisvert, Captain, City of Albuquerque Fire Department
R. Busch, Chief Reactor Supervisor
K. Carpenter, Reactor Supervisor
L. Cleveland, Radiation Safety Specialist
J. DeZetter, Radiation Safety Officer
J. Fulghum, Department Chair

INSPECTION PROCEDURES USED

IP 69001 CLASS II NON-POWER REACTORS

ITEMS OPENED, CLOSED, AND DISCUSSED

OPENED:

50-252/2006-201-01 NCV Failure to follow the NRC approved requalification program in accordance with 10 CFR 55.59(a)(1)
50-252/2006-201-02 IFI Follow-up to verify that the licensee arranges tours of the AGN-201M Reactor Facility for the City of Albuquerque Fire Department for emergency preparedness training

CLOSED:

50-252/2003-202-01 IFI Follow-up on the licensee's commitment to add the requirement for announced, non-duty tests of the electronic surveillance system each semester to the Monthly Maintenance Checklist

DISCUSSED:

None

LIST OF ACRONYMS USED

| | |
|--------|--|
| ADAMS | Agencywide Document Access and Management System |
| AGN | Aerojet General Nucleonics |
| ALARA | As Low As Reasonably Achievable |
| CFR | Code of Federal Regulations |
| CRS | Chief Reactor Supervisor |
| E-Plan | Emergency Plan |
| HAZMAT | Hazardous Materials Team |
| IFI | Inspector Follow-up Item |
| IP | Inspection Procedure |
| LCO | Limiting Condition for Operation |
| LOA | Letter of Agreement |
| MREM | Millirem |

| | |
|------|---------------------------------------|
| NCV | Non-Cited Violation |
| NRC | Nuclear Regulatory Commission |
| PVC | Polyvinyl Chloride |
| RO | Reactor Operator |
| ROTM | Reactor Operation and Training Manual |
| RS | Reactor Supervisor |
| RSAC | Reactor Safety Advisory Committee |
| RSM | Radiation Safety Manual |
| RSO | Radiation Safety Officer |
| SRO | Senior Reactor Operator |
| TLD | Thermal Luminescent Dosimeter |
| TS | Technical Specifications |
| UNM | University of New Mexico |
| W | Watts |