

September 24, 2009

Dr. Jay F. Kunze
Reactor Administrator
Idaho State University
P.O. Box 8060
Pocatello, ID 83209-8060

SUBJECT: IDAHO STATE UNIVERSITY - NRC ROUTINE INSPECTION REPORT NO.
50-284/2009-201

Dear Mr. Kunze:

On August 24-27, 2009, the U.S. Nuclear Regulatory Commission (NRC, the Commission) conducted an inspection at the Idaho State University AGN-201M Reactor Facility (Inspection Report No. 50-284/2009-201). The enclosed report presents the results of that inspection.

This inspection was an examination of 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. 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 concern or noncompliance with NRC requirements was identified. No response to this letter is required.

In accordance with Title 10 of the *Code of Federal Regulations* Part 2.390 a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (Agencywide Document Access and Management System (ADAMS)). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Greg Schoenebeck at 301-415-6345 or by electronic mail at Greg.Schoenebeck@nrc.gov.

Sincerely,

/RA/

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

Docket No. 50-284
License No. R-110

Enclosure:
As stated

cc: See next page

Idaho State University

Docket No. 50-284

cc:

Idaho State University
ATTN: Mr. Adam Mallicoat
Reactor Supervisor
Campus Box 8060
Pocatello, ID 83209-8060

Idaho State University
ATTN: Dr. Richard T. Jacobsen
College of Engineering Dean
Campus Box 8060
Pocatello, ID 83209-8060

Idaho State University
ATTN: Dr. Richard R. Brey
Radiation Safety Officer
Physics Department
Box 8106
Pocatello, ID 83209-8106

Toni Hardesty, Director
Idaho Dept. of Environmental Quality
1410 North Hilton
Boise, ID 83606

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

September 24, 2009

Dr. Jay F. Kunze
Reactor Administrator
Idaho State University
P.O. Box 8060
Pocatello, ID 83209-8060

SUBJECT: IDAHO STATE UNIVERSITY - NRC ROUTINE INSPECTION REPORT NO.
50-284/2009-201

Dear Mr. Kunze:

On August 24-27, 2009, the U.S. Nuclear Regulatory Commission (NRC, the Commission) conducted an inspection at the Idaho State University AGN-201M Reactor Facility (Inspection Report No. 50-284/2009-201). The inspection included a review of activities authorized for your facility. The enclosed report presents the results of that inspection.

This inspection was an examination of 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. 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 concern or noncompliance with NRC requirements was identified. No response to this letter is required.

In accordance with Title 10 of the *Code of Federal Regulations* Part 2.390 a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (Agencywide Document Access and Management System (ADAMS)). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Greg Schoenebeck at 301-415-6345 or by electronic mail at Greg.Schoenebeck@nrc.gov.

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

Docket No. 50-284
License No. R-110

Enclosure:
As stated

cc: See next page

DISTRIBUTION:

PUBLIC
PRTB Reading File
RidsNrrDprPrtb

RidsOgcMailCenter
GSchoenebeck, NRR
AAdams, NRR

MCompton, NRR (cover letter only,
O13-E1B)
GLappert, NRR

ADAMS Accession No: ML092510333

NRC-002

OFFICE	PRTB:RI	PRT:LA	PRT:BC
NAME	GSchoenebeck	GLappert	JEads
DATE	9/9/09	9/21/09	9/24/09

OFFICIAL RECORD COPY

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

Docket No: 50-284

License No: R-110

Report No: 50-284/2009-201

Licensee: Idaho State University

Facility: AGN-201M Reactor Facility

Location: Pocatello, Idaho

Dates: August 24-27, 2009

Inspector: Gregory Schoenebeck

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

EXECUTIVE SUMMARY

Idaho State University
AGN-201M Reactor Facility
NRC Inspection Report No. 50-284/2009-201

The primary focus of this routine, announced inspection was the onsite review of selected aspects of the Idaho State University (the licensee) Class II research reactor facility safety programs including: Organization and Staffing; Operations Logs and Records; Requalification Training; Surveillance and limiting conditions for operation (LCO); Emergency Planning; Maintenance Logs and Records; and Fuel Handling Logs and Records, and the Follow-up of Previously Identified Issues. The licensee's programs were acceptably directed toward the protection of public health and safety, and were in compliance with the U.S. Nuclear Regulatory Commission (NRC) requirements.

Organization and Staffing

- The organization and staffing was consistent with Technical Specification (TS) requirements.

Operations Logs and Records

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

Requalification Training

- The licensee was generally meeting the requalification program requirements to ensure the effectiveness of all licensed operators.

Surveillance and LCO

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

Emergency Planning

- The emergency preparedness program was conducted in accordance with the approved Emergency Plan (E-Plan).

Maintenance Logs and Records

- Maintenance was performed and logs and records maintained consistent with TS and licensee procedure requirements.

Fuel Handling Logs and Records

- Fuel handling activities satisfied TS and licensee's procedural requirements

Follow-up on Previously Identified Issues

- The Non-Cited Violation (NCV) 50-284/2007-201-01 will remain an open item until resolution. The Inspector Follow-up Item (IFI) 50-284/2007-201-02 was closed.

REPORT DETAILS

Summary of Facility Status

The licensee's Idaho State University (ISU) Aerojet General Nucleonics-201M (AGN-201M) Reactor Facility, licensed to operate at a maximum steady-state thermal power of 5 Watts (W), continues to be operated in support of operator training, surveillance, and minor utilization. During the inspection the reactor was operated for pre-startup checks, but did not startup to achieve criticality due to equipment malfunction.

1. Organization and Staffing

a. Inspection Scope (Inspection Procedure [IP] 69001-02.01)

The inspectors reviewed the following to verify compliance with the organization and staffing requirements in Technical Specification (TS) Section 6.1:

- Idaho State Reactor organizational structure and staffing
- Technical Specifications for Idaho State University AGN-201M Reactor (Serial No. 103) dated August 2006
- Meeting Minutes of ISU Reactor Safety Committee of March 12, 2009
- Letter from Jay Kunze to the NRC, "Change in Reactor Supervisory Position", dated June 19, 2009
- Letter from Jay Kunze to the NRC, "Cancellation of RO License of John Bennion", dated August 27, 2009
- Idaho St. University Annual Operating Report for 2008

b. Observations and Findings

Since the last inspection (NRC Inspection Report No. 50-284/2008-201, Agencywide Documents Access and Management System (ADAMS) No. ML0819702882), the organizational structure for the reactor facility has changed. The Reactor Supervisor (RS) position has changed and the qualifications of the incumbent are met as designated in the TS. Including the RS, there are 4 licensed Senior Reactor Operators (SROs) and 2 licensed Reactor Operators (ROs). Review of records verified that management responsibilities were administered as required by TS and applicable procedures. The inspector observed reactor operations on one occasions and noted the shift staffing of the licensee satisfies the requirements for TS.

c. Conclusions

The organization and staffing was consistent with TS requirements.

2. Operations Logs and Records

a. Inspection Scope (IP 69001-02.02)

The inspector reviewed selected aspects of the following to ensure that the operations program was being implemented as required in TS Section 6:

- ISU AGN-201M Procedure, "General Operating Rules," Revision (Rev.) 4, dated October 7, 1994
- ISU AGN-201M OP-1, "AGN-201 Operating Procedure No. 1," Rev. 3, dated April 26, 1994
- Form ROL-101 Page 1, "Check Out," Rev. 3, dated April 26, 1994
- Form ROL-101 Page 2, "Prestart Data," Rev. 3, dated April 26, 1994
- Form ROL-101 Page 3, "Operational Data," Rev. 3, dated April 26, 1994
- ISU AGN-201 Reactor Facility Master Log No.4, November 28, 2006 to April 20, 2008
- ISU AGN-201 Reactor Facility Master Log No. 5, April 21, 2008 to Present

b. Observations and Findings

Reactor operations were carried out according to written procedures and TS requirements. The inspector observed the performance of the required checklist for operation of the reactor. Additionally, a reactor start-up was observed, however malfunction of the high voltage power supply to nuclear instrument channels #2 and #3 occurred during the pre-startup checklist. The facility RS provided troubleshooting oversight and resolved the issue by replacing the faulty equipment. The RS used discretion and did not continue a startup to criticality without proper calibration of the newly installed components.

The inspector noted that the licensed RO and SRO were knowledgeable and competent. The inspector verified that reactor operating characteristics, and other TS and procedure required entries, were recorded on the appropriate forms and logs and that they were performed in accordance with procedure.

Through the review of logs and pre-startup check off lists, (i.e., Form ROL-101) the inspector noted on several occasions that facility staff and those that are in training were signing into the logbook as a Certified Observer and performing reactor operations that were outside the constraints of TS 1.2, which states "a Certified Observer is an individual certified by the Reactor Supervisor as qualified to activate manual scram and initiate emergency procedures." Upon further discussion with the licensee, it appears that it is a nomenclature error as the operators should be identified as Authorized Operators. TS 1.1 states, "an Authorized Operator is an individual authorized by the Reactor Supervisor to operate the reactor controls and who does so with the knowledge of the Reactor Supervisor and under the direct supervision of a Reactor Operator. The licensee corrective action is to address this issue during the annual requalification

program training, and to address existing procedures that specify actions of a Certified Observer outside the confines of TS 1.2. The inspector discussed this issue with the Reactor Manager and RS. This item is designated as an Inspector Follow-up Item (IFI) 50-284/2009-201.

c. Conclusions

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

3. Requalification Training

a. Inspection Scope (IP 69001-02.04)

The inspectors reviewed the following to verify compliance with the requirements in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 55 and the Requalification Program:

- Technical Specifications for Idaho State University AGN-201M Reactor (Serial No. 103) dated August 2006
- Reactor Operator Requalification Program for the Idaho State University Reactor, Rev. 2, dated August 17, 1995
- Medical Records for current Reactor Operators and Senior Reactor Operators
- Idaho State University Nuclear Engineering Laboratory Requalification Program Progress Checklist, various
- Audit of Training, Qualification of ISU Facility Staff, dated 8/21/2009
- Letter from John Bennion, Reactor Supervisor to Todd Gansauge, Senior Reactor Operator, "Reactor Operator Decertification", dated February 23, 2005

b. Observations and Findings

The inspector followed-up on the Non-Cited Violation (NCV) 50-284/2007-201-01 (NRC Report 50-284/2007-201, ADAMS # ML072390213) regarding an SRO not meeting the requirements of 10 CFR 55 and continuing to perform licensed actions without oversight. Through interviews with the Reactor Manager and review of operating logs, the inspector determined that the licensed SRO has not been allowed to perform licensed activities without supervision of qualified personnel and is actively engaged in the requalification program.

The inspector also followed-up on the licensee's committed actions regarding the aforementioned NCV. The licensee committed to requiring all operators to log their hours of conducting licensed activities, and to routinely review these records to ensure that the operators are meeting the requalification program's requirements. Upon review, it was determined that there is a check-off list to track hours of licensed activities and the completion of required training. However, it was not completely evident that the operators were logging their

operating hours, nor being routinely reviewed as the licensee had committed. It does appear that the new Reactor Supervisor has committed to restructuring the requalification program to ensure requirements are being met during the current biennial requalification cycle. Therefore, the inspector will leave the NCV 50-284/2007-201-01 item as open, until the commitments are met.

c. Conclusions

The licensee was generally meeting the requalification program requirements to ensure the effectiveness of all licensed operators.

4. Surveillance and Limiting Conditions for Operation

a. Inspection Scope (IP 69001-02.05)

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

- ISU AGN-201M Reactor Facility Master Log #4, various
- ISU AGN-201M Reactor Facility Master Log#5, various
- 24M-3 RSC Audit: Performance, Training, Quals of Staff (TS 6.4.3.b), dated August 21, 2009
- Surveillance Procedure (SP)-1, "Calibrate Period, CR and Power Channels, Rev 0 dated December 13, 1988
- SP-1A, "Checkoff Sheet", dated August 19, 2008
- SP-2, "Calibrate Period, CR, and Power Channels", Rev 1 dated October 10, 1988
- SP-2A, "Check-Off List", dated June 22, 2009

b. Observations and Findings

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

c. Conclusions

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

5. Emergency Planning

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of:

- Emergency Plan for the Nuclear Facilities at Idaho State University, dated August 14, 2006
- Summary of Emergency Exercise involving the ISU Reactor (AGN-201M) on August 20, 2009-09-03
- Memorandum of Understanding (MOU) by and between the Idaho State Police and Idaho State University concerning response to emergencies at Idaho State University involving radiation, dated February 26, 2009
- MOU by and between the city of Pocatello and Idaho State University concerning response to emergencies at Idaho State University involving radiation, dated April 16, 2009
- MOU by and between Portneuf Medical Center and Idaho State University, dated April 3, 2009

b. Observations and Findings

The inspector followed-up on an IFI 50-284/2007-201-02 (NRC Inspection Report 50-284/2007-201, ADAMS # ML072390213) regarding the familiarization of the firefighters and police personnel with the reactor facility. The inspector determined that annual training, including a site visit is performed prior to performance of the annual drill. The inspector has determined that IFI 50-284/2007-201-02 is closed.

The licensee's Emergency Plan (E-Plan) was verified to be the same as the version most recently approved by the NRC. Emergency preparedness and response training for licensee staff was being completed on an annual basis. Through drill scenario and record reviews, emergency responders were determined to be knowledgeable of the proper actions to take in case of an emergency. Emergency drills had been conducted annually as required by the E-Plan. Communications capabilities with support groups were acceptable and had been tested as required. Critiques were written following the drills to document the strengths and weaknesses identified during the exercise. Action items were developed to correct the problems identified.

c. Conclusions

The emergency preparedness program was conducted in accordance with the approved E-Plan.

6. Maintenance Logs and Records

a. Inspection Scope (IP 69001-02.11)

The inspector reviewed the following:

- Maintenance Procedure (MP)-1 "AGN-201 Rod Maintenance", Rev. 5 dated June 15, 1994
- MP-2 "Procedure to Open the AGN-201 Core"

- ISU AGN-201 Reactor Facility Master Log No. 4, November 28, 2006 to April 20, 2008
- ISU AGN-201 Reactor Facility Master Log No. 5, April 21, 2008 to Present

b. Observations and Findings

The inspector reviewed maintenance logs and records and determined that they are maintained as required by licensee's administrative procedures and TS. Maintenance that was performed had been accomplished in accordance with TS and the licensee's procedures.

c. Conclusions

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

7. Fuel Handling Logs and Records

a. Inspection Scope (IP 69001-02.12)

The inspectors reviewed the following to ensure that the licensee satisfied TS and procedural requirements:

- Maintenance Procedure (MP)-1 "AGN-201 Rod Maintenance", Rev. 5 dated June 15, 1994
- MP-2 "Procedure to Open the AGN-201 Core
- ISU AGN-201 Reactor Facility Master Log No. 4, November 28, 2006 to April 20, 2008
- ISU AGN-201 Reactor Facility Master Log No. 5, April 21, 2008 to Present

b. Observations and Findings

The inspector determined that the licensee was maintaining the records of the control rod fuel movements that had been completed and verified that the movements were conducted and recorded in compliance with procedures

c. Conclusions

Fuel handling activities satisfied TS and licensee's procedural requirements.

10. Follow-up on Previously Identified Issue

a. Inspection Scope (IP 92701)

The inspector followed up on the NCV 50-284/2007-201-01 (NRC Inspection

Report No. 50-284/2007-201, ADAMS # ML072390213) regarding an SRO not meeting the requirements of 10 CFR 55 and continuing to perform licensed actions without oversight.

The inspector followed-up on an IFI 50-284/2007-201-02 (NRC Inspection Report No. 50-284/2007-201, ADAMS # ML072390213) regarding the familiarization of the firefighters and police personnel with the reactor facility.

b. Observations and Findings

NCV 50-284/2007-201-01

Through interviews with the Reactor Manager and review of operating logs, the inspector determined that the licensed SRO has not been allowed to perform licensed activities without supervision of qualified personnel and is actively engaged in the requalification program. The inspector followed-up on the committed actions by the licensee with regards to tracking hours of licensed activities and training in accordance to the requalification program, and determined the operators are not documenting their information.

IFI 50-284/2007-201-02

The inspector determined that annual training, including a site visit is performed prior to performance of the annual drill

c. Conclusion

The NCV 50 -284/2007-201-01 will remain an open item until resolution. The IFI 50-284/2007-201-02 was closed.

14. Exit Interview

The inspector presented the inspection results to licensee management at the conclusion of the inspection on August 27, 2009. The inspector described the areas inspected and discussed in detail the inspection observations. No dissenting comments were received from the licensee. The licensee acknowledged the observations presented 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. Brey	Director, ISU HP Program, Radiation Safety Officer
J. Kunze	Reactor Manager
A. Mallicoat	Reactor Supervisor

Other Personnel

V. Likes	Patrol Captain, Department of Public Safety
----------	---

INSPECTION PROCEDURES USED

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

ITEMS OPENED, CLOSED, AND DISCUSSED

OPENED

50-284/2009-201	IFI	Correct the terminology of "Certified Operator" and "Authorized Operators" such that it is in accordance with Technical Specification
-----------------	-----	---

CLOSED

50-284/2007-201-02	IFI	Site familiarization for firefighters and police
--------------------	-----	--

DISCUSSED

50-284/2007-201-01	NCV	Requalification program corrective actions
--------------------	-----	--

PARTIAL LIST OF ACRONYMS USED

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ADAMS	Agencywide Documents Access and Management System
AGN-201M	Aerojet General Nucleonics-201M
CFR	Code of Federal Regulations
EP	Experimental Plan
E-Plan	Emergency Plan
IFI	Inspector Follow-up Item
IP	Inspection Procedure

ISU	Idaho State University
LCO	Limiting Conditions for Operation
MOU	Memorandum of Understanding
MP	Maintenance Procedure
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PFD	Pocatello Fire Department
Rev	Revision
RO	Reactor Operator
RS	Reactor Supervisor
RSC	Reactor Safety Committee
SP	Surveillance Procedure
SRO	Senior Reactor Operator
TS	Technical Specification
W	Watt