JAN - 9 1992

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

Idaho State University
ATTN: Dr. John M. Hutchinson
Vice President for
Academic Affairs
Pocatello, Idaho 83209

Gentlemen:

SUBJECT: NRC INSPECTION REPORT NO. 50-284/91-01 (NOTICE OF VIOLATION)

This refers to the inspection conducted by Messrs. A. D. Gaines and L. Wilborn of this office during the period December 9-12, 1991, of activities authorized by NRC Facility License R-110 for the Idaho State University Reactor Laboratory, and to the discussion of our findings with Dr. A. Wilson and other members of your staff at the conclusion of the inspection.

Areas examined during the inspection included reactor operations, radiation protection, emergency preparedness, special nuclear materials accountability, radioactive material transportation, and physical security programs. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the inspectors. The inspection findings are documented in the enclosed inspection report.

Based on the results of this inspection, certain of your activities appeared to be in violation of NRC requirements, as specified in the enclosed Notice of Violation (Notice). These apparent violations involved the failure to administer a written examination for a licensed reactor operator, the failure to conduct an annual emergency drill, and failure to audit facility operations. We are concerend about these violations because the violations should have been identified and corrected as part of your internal review and audit program.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room. However, in accordance with 10 CFR Part 2.790(d), the documentation enclosed concerning your Physical Security Plan (the Attachment to Appendix B to this

*RIV:FIPS	*FIPS	*C:FIPS	*NRR	*D:DRSS
ADGaines:nh	LWilborn	BMurray	SHWeiss	LJCallan
/ /91	/ /91	/ /91	/ /91	1/9/91

*Previously concurred.

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letter) is exempt from disclosure. Therefore, this Attachment will not be placed in the Public Document Room.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

It is our understanding that you will establish formal letters of agreement with the support organization discussed in your emergency plan and that these agreements will be reviewed and updated biennially. This commitment is discussed in paragraph 12 of the enclosed report. Please advise us if your understanding of this commitment is different than stated.

We have also examined actions you have taken with regard to previously identified inspection findings. The status of these items is identified in paragraph 2 of the enclosed inspection report.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

Original signed by
Johns P. Jaudon for

L. J. Callan, Director
Division of Radiation Safety
and Safeguards

Enclosures:
1. Appendix A - Notice of Violation
2. Appendix B - NRC Inspection Report 50-284/91-01
3. Attachment - Physical Security Inspection - PROPRIETARY INFORMATION

cc w/nonproprietary enclosures:
Idaho State University
ATTN: Dr. V. Charyulu
Reactor Administrator
College of Engineering
Box 8060
Pocatello, Idaho 83209

Idaho State University
ATTN: T. Gesel
Radiation Safety Officer
College of Engineering
Box 8060
Pocatello, Idaho 83209

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Radiation Control Program Director
Division of Environment
450 West State, 3rd Floor
Boise, Idaho 83720

bcc to DMB w/nonproprietary enclosures (IE01)

bcc w/all enclosures:
R. Martin
*L. J. Callan, DRSS
*B. Murray, FIPS
*RIV File
*S. H. Weiss, NRR
*L. Wilborn, FIPS
*J. P. Jaudon, DRSS
*A. D. Gaines, FIPS
*FIPS File

bcc w/nonproprietary enclosures:
T. Michaels, NRR Project Manager (MS 11B20)
*DRP
*MIS Coordinator
*DRS
Lisa Shea, RM/ALF (MS 4503)
*RSTS Operator

*IFS Form

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APPENDIX A

NOTICE OF VIOLATION

Idaho State University (ISU)
Lillibridge Engineering Laboratory

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

During an NRC inspection conducted December 9-12, 1991, violations of NRC requirements were identified. These violations involved: (1) implementation of the reactor operator requalification program, (2) implementation of the Radiological Emergency Plan, and (3) failure to perform audits.

In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1991), the violations are listed below:

A. 10 CFR Part 55.59(c) requires that a facility licensee have a reactor operator requalification program reviewed and approved by the Commission.

Technical Specification 6.3 of the ISU Facility Operating License, Amendment 4, requires that all licensed reactor operators shall participate in requalification training as set forth in 10 CFR Part 55.

Section 4.a of the licensee's NRC approved reactor operator requalification program requires that an annual written examination covering the entire area of reactor operations for the AGN-201 reactor will be administered to all operators and senior operators by the Reactor Safety Committee.

Contrary to the above, the inspectors determined on December 12, 1991, that the licensee's Reactor Safety Committee had not administered an annual written examination to two senior reactor operators in 1990.

This is a Severity Level IV violation (Supplement 1) (284/9101-01).

B. 10 CFR Part 50.54(q) requires that a licensee authorized to possess and/or operate a research reactor shall follow and maintain in effect emergency plans.

Section 6 of the NRC approved Emergency Plan (Revision 4) for the ISU nuclear facility, dated May 2, 1989 requires that university personnel who would be involved in a nuclear incident will be tested by annual drills.

Contrary to the above, the NRC inspector determined on December 12, 1991, that the licensee did not conduct a drill of the ISU Emergency Plan during 1990. This is a repeat violation.

This is a Severity Level IV violation (Supplement 1) (284/9101-02).

C. License Condition 2.C.(2) of Amendment No. 4 to the ISU Amended Facility Operating License requires that the licensee shall operate the facility in accordance with the Technical Specifications.

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Technical Specification 6.4.3.a requires that the licensee audit the conformance of facility operation to the Technical Specifications and applicable license conditions, at least once per 12 months.

Contrary to the above, the inspectors determined on December 12, 1991, that the conformance of facility operation to the Technical Specifications and applicable license conditions was not audited once per 12 months, in that no audit had been performed since the last audit in May 1990.

This is a Severity Level IV violation (Supplement 1) (284/9101-03).

Pursuant to the provisions of 10 CFR 2.201, Idaho State University is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region IV, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified by this Notice, an order may be issued to show cause why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Dated at Arlington, Texas
this 9th day of January 1992

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-284/91-01 Operating License: R-110

Docket: 50-284

Licensee: Idaho State University (ISU)
Pocatello, Idaho 83209

Facility Name: ISU Lillibridge Engineering Laboratory - AGN 201-M(5 Watt)

Inspection At: ISU Campus, Bannock County, Pocatello, Idaho

Inspection Conducted: December 9-12, 1991

Inspectors: A. D. Gaines, Radiation Specialist
L. Wilborn, Radiation Specialist

Approved: Blaine Murray
Blaine Murray, Chief, Facilities Inspection Programs Section

1/8/92
Date

Inspection Summary

Inspection Conducted December 9-12, 1991 (Report 50-284/91-01):

Areas Inspected: Routine, announced inspection of the licensee's management organization, training and qualifications, reactor operations and maintenance, procedures, experiments, surveillances, internal audit and review program, radiation protection program, emergency preparedness, radioactive material transportation, special nuclear material accountability, and physical security and safeguards.

Results: Within the areas inspected, three violations were identified. These violations involved: (1) failure to implement the reactor operator requalification program (paragraph 5), (2) failure to implement the Radiological Emergency Plan (paragraph 12), and (3) failure to perform audits (paragraph 13). One open item involving letters of agreements with emergency support organizations was identified (paragraph 12). No deviations were identified.

The licensee's overall program was good with no significant programmatic weaknesses identified. The inspectors noted that improvements were made regarding the concerns identified during the previous inspection. The violations identified in this inspection appeared to be the result of the lack of a comprehensive self-audit program.

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DETAILS

1. Persons Contacted

ISU

*V. Charyulu, Dean College of Engineering, Reactor Administrator
*A. Wilson, Reactor Supervisor, Senior Reactor Operator
*F. Just, Chairman, Reactor Safety Committee
*T. Gesell, Professor, Health Physics
D. Levinskas, Senior Reactor Operator
S. Cunningham, Health Physicist, Reactor Operator

Others

S. Chatterton, Director, ISU Campus Security
M. Stayner, Captain, Pocatello Police Department
S. Simmons, Pocatello Fire Department
P. Carlson, Nuclear Medicine Technologist, Bannock Regional Medical Center

NRC

*B. Murray, Chief, Facilities Inspection Programs Section

*Denotes those present at the exit meeting on December 12, 1991.

2. Followup on Previous Inspection Findings (92701)

(Closed) Violation (284/8901-01): Licensed Operator Requalification - This violation was discussed in NRC Inspection Report 50-284/89-01 and involved the failure of a member of the Reactor Safety Committee to perform observations of one senior reactor operator and one reactor operator at least once each calendar year. The inspectors examined the licensee's corrective actions in their April 24, 1989, response to the violation. The inspectors reviewed the requalification program and associated records for 1989, 1990, and 1991 and found observations were performed and documented in accordance with requirements. The licensee's corrective actions were adequate to close this violation.

(Closed) Violation (284/8901-02): Emergency Plan Implementation - This violation was discussed in NRC Inspection Report 50-284/89-01 and consisted of two items: (1) the failure to conduct an annual drill of the ISU Emergency Plan, and (2) the failure to audit the ISU Emergency Plan every 2 years. The inspectors examined the licensee's corrective actions committed to in their April 24 and May 24, 1989, responses to the violation. The inspectors reviewed the Emergency Plan implementation and associated records for 1989, 1990, and 1991 and found that the licensee failed to conduct a drill of the Emergency Plan during 1990, but the licensee had audited the Emergency plan every two years. The licensee's corrective actions were adequate to close Item 2 of the violation, but

were not sufficient to prevent Item 1 from recurring. This violation is considered closed, and the repeat violation of Item 1 is discussed in paragraph 12.

(Closed) Violation (284/8901-03): Physical Security Plan Revision - This violation was discussed in NRC Inspection Report 50-284/89-01 and involved changes, without prior NRC approval, to the Physical Security Plan which would have decreased the effectiveness of the plan and not submitting a report to the NRC of changes in the Physical Security Plan. The inspectors examined the licensee's actions committed to in their April 24 and May 24, 1989, responses to the violation. The inspectors reviewed the implementation of the Physical Security Plan and associated records for 1989, 1990, and 1991 and found the licensee had submitted to NRC for prior approval revisions to the Physical Security Plan. The licensee's corrective actions were adequate to close this violation.

(Closed) Open Item (284/8901-04): Tracking Annual and Quarterly Operator Activities - This item was discussed in NRC Inspection Report 50-284/89-01 and involved the development of administrative controls over the Operator Requalification Program files and implementation of an operator matrix that would identify completion of each item in the Operator Requalification Program. The inspectors reviewed the Operator Requalification Program and noted that a new form had been established that documents each item in the operator requalification program. This item is considered closed.

(Closed) Open Item (284/8901-05): Operator Requalification Tests - This item was discussed in NRC Inspection Report 50-284/89-01 and involved the evaluation of requalification tests for subject comprehensiveness. The licensee implemented a test program that utilizes the test question bank made up of NRC administered operator and senior operator test questions. The inspectors reviewed the operator requalification tests administered by the licensee since the last inspection and noted that they consisted of questions made up from the NRC bank of questions. This item is considered closed.

(Closed) Open Item (284/8901-06): Experiment Approval Documentation - This item was discussed in NRC Inspection Report 50-284/89-01 and involved the need for the licensee to provide, on each experiment procedure, the revision, date, and signature of the approving authority. The inspectors reviewed the licensee's experiment procedures and noted that they included the revision, date, and signature of the approving authority. This item is considered closed.

(Closed) Open Item (284/8901-07): Neutron Dosimetry - This item was discussed in NRC Inspection Report 50-284/89-01 and involved the evaluation of personnel neutron dosimetry and its insensitivity to low energy neutrons. The inspectors noted that the licensee had evaluated their neutron dosimetry and had obtained new dosimetry which is sensitive to low energy neutrons. This item is considered closed.

(Closed) Open Item (284/8901-08): NRC Form 5 - This item was discussed in NRC Inspection Report 50-284/89-01 and involved the evaluation of the personnel exposure record system. The inspectors determined that the licensee evaluated their dosimetry record systems and updated the information provided by their dosimetry vendor to ensure that the exposure data adequately represented an NRC Form 5 equivalent. This item is considered closed.

(Closed) Open Item (284/8901-09): Reactor Safety Committee Audits - This item was discussed in NRC Inspection Report 50-284/89-01 and involved self audits to verify compliance with the Facility Operating License and Technical Specifications, and the applicable requirements of 10 CFR Parts 19, 20, 50, and 55. The NRC inspectors identified several violations during this inspection, one of which was a repeat violation, which should have been identified as part of the licensee's self-audit program. The licensee stated that they plan to develop a comprehensive audit program including detailed checklists in order to make improvements in this area. This item is closed.

(Closed) Open Item (284/8901-10): Reactor Laboratory Fire Protection - This item was discussed in NRC Inspection Report 50-284/89-01 and involved the evaluation of the fire protection program for the reactor laboratory. The inspectors noted that the licensee had installed a smoke detector in the reactor laboratory that would alert the Pocatello Fire Department. This item is considered closed.

(Closed) Open Item (284/8901-11): Access Key and Material Controls - This item was discussed in NRC Inspection Report 50-284/89-01 and involved the security of fuel fragments and controls for access area keys. The inspectors noted that the licensee added a lock to the container of fuel fragments and instituted a control program for access area keys. This item is considered closed.

3. Inspection Followup Items Identified During This Inspection

An inspection followup item is a matter that requires further review and evaluation. They are used to document, track, and ensure adequate followup on matters of concern to the inspectors. The following inspection followup item was identified:

Inspection Followup	Title	Paragraph
284/9101-04	Letters of Agreement	12

4. Organization and Management Controls (40750)

The inspectors reviewed the licensee's organization and staffing to determine compliance with Technical Specification (TS) 6.0.

The inspectors verified that the organizational structure was as specified in the TS. All organizational positions were staffed by qualified

personnel. The licensee had several staffing changes since the last NRC inspection. In June 1989 the Dean of the College of Engineering became the Reactor Administrator. The most notable change occurred in August 1990 when the person who held both the Reactor Supervisor and the Radiation Safety Officer positions terminated employment. The Reactor Supervisors position was filled by a person who had previously held the position. Three different individuals had held the position of Radiation Safety Officer since August 1990. The inspectors discussed the importance of Radiation Safety Officer oversight to ensure that a proper reactor radiation protection program is maintained.

No violations or deviations were identified.

5. Training and Qualifications (40750)

The inspectors examined the licensee's training programs for laboratory/reactor workers and requalification of reactor operators to determine compliance with the requirements of 10 CFR Parts 19.12 and 55.59.

On December 10, 1991, the inspectors observed as one of the senior reactor operators performed a reactor startup, Experiment No. 3C, steady state operations and reactor shutdown. The senior reactor operator performed the above operations in accordance with all applicable procedures and license conditions.

The inspectors noted that the licensee's radiological safety training for personnel frequenting the reactor laboratory was implemented by attending specified courses. The inspectors determined that the courses satisfied the requirements of 10 CFR Part 19.12.

The licensee currently has five licensed operators (two operators and three senior reactor operators).

The inspectors reviewed the licensee's documentation of the two senior reactor operators participation in the NRC approved (February 1974) Operator Requalification Program. The licensee had developed a good form to track and document operator requalification requirements. However, it was noted that some of the forms where incomplete, but the inspectors were able to find the missing information in other documents. The inspectors discussed with the licensee the effectiveness of the new form and the need to ensure that it was kept up to date. The licensee's Operator Requalification Program requires that a member of the Reactor Safety Committee observe annually the operation of the reactor by each licensed operator. A review of records indicated that a member of the Reactor Safety Committee observed both licensed senior reactor operators operate the reactor in 1989, 1990, and 1991.

The licensee's requalification tests given to two senior reactor operators were reviewed. The comprehensiveness of tests was improved from that noted during the last inspection. This improvement was in part due to the

licensee utilizing the test question bank made up of NRC administered operator and senior reactor operator licensing test questions.

The inspectors noted that operator requalification tests were given to the two senior reactor operators in September 1989 and October 1991, but none were administered in 1990. 10 CFR Part 55.59(c) requires that a facility licensee shall have a reactor operator requalification program reviewed and approved by the Commission. Technical Specification 6.3 of the ISU Facility Operating License, Amendment 4, requires that all licensed reactor operators shall participate in requalification training as set forth in 10 CFR Part 55. Section 4.a of the licensee's NRC approved reactor operator requalification program requires that an annual written examination covering the entire area of reactor operations for the AGN-201 reactor will be administered to all operators and senior operators by the Reactor Safety Committee at Idaho State University.

The inspectors determined on December 12, 1991, that the licensee's Reactor Safety Committee had not administered an annual written examination to two senior reactor operators in 1990. The failure of the Reactor Safety Committee to administer a written examination to senior reactor operators in 1990 is considered an apparent violation of 10 CFR Part 55.59(c) (284/9101-01).

One violation and no deviations were identified.

6. Reactor Operations (40750)

The inspectors reviewed logs and records, and observed reactor operations to determine compliance with License Conditions 2.C.1 and 2.C.2 and TS 2.0 and 3.0.

The inspectors inspected the licensee's facilities and observed licensee startup, operation, and shutdown of the reactor to verify reactor protection systems operation. The inspectors noted that the reactor was operated approximately 157 hours in 1990 for the purpose of laboratory experiments, reactor system tests, reactor surveillances, and sample irradiations. The licensee initiated startup of the reactor on December 10, 1991, and operated the reactor at 4.5 watts steady-state power to demonstrate to the inspectors the operation of the reactor protective systems.

The inspectors reviewed reactor operations logs and records to determine compliance with the license conditions and TS requirements. The licensee had not operated the reactor at thermal power levels in excess of 5 watts. The inspectors verified that reactor safety limits had not been exceeded. In the last annual control rod worth determinations, the reactor shutdown margin and excess reactivity were verified to be within TS limits. The inspectors verified that all the required reactor control system instrument channels, safety circuits, and safety interlocks required by TS were tested and operable and were included as part of the reactor startup checklist. The area radiation monitor was checked and verified to be

operational prior to reactor startup. The licensee's logs and records adequately documented reactor operations and required maintenance.

No violations or deviations were identified.

7. Procedures (40750)

The inspectors reviewed the licensee's procedures for operating and maintaining the reactor, conducting surveillances and calibrations, and conducting experiments to determine compliance with the requirements of TS 6.5 and 6.6.

The inspectors determined that the licensee had developed a set of general operating rules, 3 reactor operating procedures, 9 surveillance, maintenance, and calibration procedures, and 21 experiment procedures. One operating, one maintenance, and one experiment procedure had been added since the last inspection. A review of selected procedures including new procedures or those revised and approved since the last NRC inspection in March 1989, indicated that the licensee had sufficient procedures to meet TS requirements. The following new and revised procedures were examined by the inspectors:

- AGN-201 Operating Procedure No. 1, Revision 2, 2/23/90
- AGN-201 Operating Procedure No. 2, Revision 2, 2/23/90
- Test Procedure AGN-201 Automatic Reactivity Control System, Operating Procedure No. 3, Revision 0, 2/23/90
- Open Core Tank, MP-2, Revision 0, 5/2/89
- Reactor Demonstration, EP-1, Revision 2, 2/23/90
- Reactor Control Rod Calibration, EP-3, Revision 3, 2/23/90
- Effects of Materials on Reactor Operation, EP-9, Revision 2, 2/23/90
- Flux Determination of a Reflector Port Neutron Beam, EP-10, Revision 2, 2/23/90
- Dose Rate Determination in Experimental Ports, EP-11, Revision 2, 2/23/90
- Reactivity Oscillator for the AGN-210, EP-12, Revision 2, 2/23/90
- Evaluation of Shielding Materials, EP-14, Revision 2, 2/23/90
- Determination of Neutron Binding Energies, EP-15, Revision 2, 2/23/90

- Automatic Reactivity Control System Operation, EP-21, Revision 0, 2/23/90

The procedures examined by the inspectors had been reviewed and approved by the Reactor Safety Committee and their reviews were documented in the Reactor Safety Committee meeting minutes.

The licensee maintained a procedures master notebook to consolidate the most recent revisions of operating rules, operating procedures, maintenance procedures, surveillance procedures, the Physical Security Plan, and the Emergency Plan. The licensee also kept control room copies of the above procedures at the control console for use by reactor operators. The inspectors determined that the control room copy of procedures contained Revision 1 of the "General Operating Rules," while the master notebook contained the original copy. Also, the control room copy contained Revision 2 of MP-1, "Control Rod Maintenance," whereas the procedures in the master notebook contained Revision 4. The inspectors discussed with the licensee the importance of maintaining up-to-date procedures in the control room. The licensee stated that they would review the operator procedure maintained at the control console to ensure operators have access to current procedures.

The inspectors reviewed the control room copies of the experiment procedures used by the reactor operators. The inspectors noted that the control room copies of procedures EP-3, EP-5, and EP-9 contained numerous handwritten changes. The licensee stated that these changes had not been formally adopted. The inspectors discussed with the licensee the need to formally incorporate the handwritten changes in the control room copies of the experiment procedures. The licensee stated that they would update their experiment procedures to ensure that all changes are formally reviewed and approved.

No violations or deviations were identified.

8. Experiments (40750)

The inspectors examined the reactor experiment program to determine compliance with TS 3.1, 3.2(a through h), and 3.3.

The inspectors reviewed 21 approved experiments and observed the licensee conduct one experiment involving reactor operations. The inspectors determined that each experiment procedure contained the revision, date, and approval signature. The licensee had approved one new experiment since the last NRC inspection. The new experiment was properly reviewed and approved.

No violations or deviations were identified.

9. Surveillances (4075(

The inspectors reviewed records and logs describing the conduct of reactor surveillances to determine compliance with TS 4.0.

The licensee's records indicated that all required surveillances (preoperational, daily, semiannual, annual, and biennial) were completed for 1989, 1990, and 1991. The following Technical Specification required surveillances were reviewed:

Technical Specification Item	Frequency	Completion Date
4.1.a, Safety and Control Rod Reactivity Worth Determination	Annual	12/89 9/90 11/91
4.1.b, Excess Reactivity and Shutdown Margin Determination	Annual	12/89 9/90 11/91
4.2.a, Safety and Control Rod Scram Times	Annual	12/89 9/90 11/91
4.2.b, Control Rods and Drive Inspection	Biennial	9/89 9/90 11/91
4.2.h, Tank Water Level Interlock, Shield Water Temperature Interlock, and Seismic Displacement Safety Channel Calibrations	Annual	10/89 11/90 12/91
4.4.c, Radiation Survey of Reactor Room and Reactor Control Room	Annual	1/89 2/90 9/91

No violations or deviations were identified.

10. Radiological Controls (40750 and 86740)

The licensee's radiation protection program was reviewed to determine compliance with the requirements of 10 CFR Part 20, and TS 3.4, 4.2.i, and 4.4.

The inspectors reviewed selected records and logs, interviewed personnel, made observations, and performed independent radiological surveys.

Radiation exposure records for reactor personnel were reviewed. It was noted that everyone who worked in the reactor facility had been issued

proper personnel dosimetry. The licensee had acquired personnel dosimetry that was sensitive to beta, gamma, and low energy neutrons radiation. The vendor that provided the dosimeters was determined to be accredited in accordance with the requirements of 10 CFR Part 20.202(c). The review of exposure records indicated that reactor personnel had not exceeded 10 CFR Part 20.101 limits.

The inspectors determined that the licensee had implemented a proper radiation surveys program. The radiation surveys were thorough and included neutron surveys. The inspectors performed independent radiation surveys of the reactor facility and the results were found to be comparable to the licensee's surveys. It was noted that with the reactor operating at 5 watts, the maximum dose rate identified near the reactor was approximately 500 millirem per hour. Radiation surveys of irradiated samples taken from the reactor ranged from 10 to 50 millirem per hour.

The inspectors reviewed the licensee's inventory of portable radiation survey instruments. The instruments were adequate and properly calibrated.

The licensee had not made any radiological effluent releases or any shipments of radioactive material since the last inspection.

No violations or deviations were identified.

11. Physical Security, Safeguards, and Material Control and Accounting (81401, 81810, 81431, and 85102)

The inspectors examined the licensee's implementation of the Physical Security Plan, Revision 3, dated February 23, 1990, to determine compliance with the requirements of Section 2.C(3) of the Facility Operating License, TS 5.2 and 5.3 and 10 CFR Part 50.54(p).

In accordance with 10 CFR Part 2.790(d), the material concerning the Physical Security Plan is exempt from disclosure. Therefore, this material is discussed in the Attachment to this Appendix and will not be placed in the Public Document Room.

No violations or deviations were identified.

12. Emergency Preparedness (40750)

The licensee's emergency preparedness program for ISU was examined to determine compliance with TS 6.4.3 and 6.6 and Revision 4 to the NRC approved ISU Emergency Plan; and 10 CFR Parts 50.54(q) and (r).

The inspectors reviewed the results of the biennial audit of the Emergency Plan. The inspectors noted that the licensee revised the Emergency Plan in May 1989 and properly reviewed and adopted the revision. The licensee conducted a biennial audit in April 1991 in conjunction with the Reactor Safety Committee meeting. An apparent violation involving the failure to conduct emergency drills is discussed below.

The inspectors reviewed records of the annual Emergency Plan drills. The inspectors were only able to located records for an April 1991 drill. The licensee stated that they remember conducting a drill in 1989 but not in 1990. Subsequent talks by the inspectors with campus security also indicated there was a drill in 1989. 10 CFR Part 50.54(q) requires that a licensee authorized to possess and/or operate a research reactor shall follow and maintain in effect emergency plans. Section 6 of the NRC approved Emergency Plan (Revision 4) for the ISU nuclear facility, dated May 2, 1989, requires that university personnel who would be involved in a nuclear incident will be tested by annual drills.

The inspector determined on December 12, 1991, that the licensee did not conduct a drill of the ISU Emergency Plan during 1990. The failure to conduct a drill of the Emergency Plan annually was identified as a repeat apparent violation of 10 CFR Part 50.54(q) (284/9101-02).

The inspectors interviewed personnel at Campus Security, the Pocatello Police Department, the Pocatello Fire Department, and Bannock Regional Medical Center. It was noted by the inspectors that the licensee had not established letters of agreement with the above organizations. Even though the organizations were aware of their responsibilities in an emergency. The inspectors discussed the need to establish formal agreements with their support organizations. During the visits to the support agencies, the inspectors also found it difficult to interface with the organizations due to the lack of the licensee having a designated liaison person within these organizations. The licensee stated at the exit meeting on December 12, 1991, that they would commit to establish a formal letter of agreement with emergency support organizations. This is considered an inspection followup item pending the review of the letters of agreements (284/9101-04).

The inspectors examined the training of emergency response personnel and maintenance of emergency response equipment. The training of university personnel was adequate and the equipment was stored, and periodically inventoried. The inspectors also noted that the licensee had installed a fire and smoke alarm in the reactor laboratory that was monitored by a security agency.

The inspectors reviewed the ISU Emergency Plan, Revision 4, dated May 2, 1989. The plan appeared to address emergency response adequately. The inspectors discussed the need for the licensee to review the entire Emergency Plan. The plan references the responsibilities of the state of Idaho's Radiation Protection Department which has undergone major changes due to the recent change of agreement status within NRC.

A review of records indicated that the licensee had to respond to a criticality alarm in the subcritical laboratory on September 28, 1991. The report indicated that it was a false alarm. The inspectors discussed the incident with personnel who responded to the event and it appeared that the situation was properly handled in accordance with the Emergency Plan.

One violation and no deviations were identified.

13. Committee Meetings and Minutes, Audits, and Reviews (40750)

The inspectors examined the licensee's audits and activities of the Reactor Safety Committee to determine compliance with the requirements of TS 6.4, 6.7(b), 6.8, and 6.10.2(i).

The inspectors reviewed the Reactor Safety Committee meeting minutes dated May 2, 1989; February 23, 1990; and April 11, 1991. The inspectors determined that the meetings were held annually as required and that the business conducted at the meetings adequately satisfied TS.

The inspectors reviewed the required audits and determined that conformance of facility operation to TS and applicable license conditions had not been audited in 1991. License Condition 2.C.(2) of Amendment No. 4 to the ISU Amended Facility Operating License requires that the licensee shall operate the facility in accordance with the TS. TS 6.4.3.a requires that the licensee audit the conformance of facility operation to the TS and applicable license conditions at least once per 12 months.

The inspectors determined on December 12, 1991, that the conformance of facility operation to the TS and applicable license conditions was not audited once per 12 months, in that no audit had been performed since the last audit in May 1990. The failure to audit the conformance of facility operation to the TS and applicable license conditions was identified as an apparent violation of TS 6.4.3.a (284-9101-03).

The inspectors discussed with the licensee at the exit meeting on December 12, 1991, their concern that the findings addressed in this report indicate that facility audits were not comprehensive enough to verify licensee compliance with applicable requirements. This concern was also addressed as an open item in the last NRC inspection. The licensee stated that they would discuss this matter at their next Reactor Safety Committee in order to make improvements in this area.

One violation and no deviations were identified.

14. Records, Notifications, and Reports (40750 and 81402)

The inspectors reviewed the licensee's submittal of reports and notifications to the NRC to determine compliance with TS 6.9.1.

The licensee had submitted the required annual reports of facility activities and operations for 1988, 1989, and 1990. It was determined that the annual reports met the facility license requirements. No special reports had been issued to the NRC since the previous inspection.

No violations or deviations were identified.

15. Inspector Independent Inspection Efforts (40750)

During the inspection, the inspectors observed a reactor startup, steady-state operation, and shutdown. The inspectors also performed independent radiation surveys and collected contamination smear samples for the purpose of comparing analyses results with the licensee. The results of the reactor radiation surveys performed by the inspectors showed comparable results to those of the licensee. The results of the smear surveys taken by the inspectors showed no detectable alpha and beta-gamma removable radiological contamination.

16. Exit Meeting (30703)

The inspectors met with the licensee's representatives denoted in paragraph 1 on December 12, 1991, and summarized the scope and findings of the inspection as presented in this report. The Physical Security Plan was identified as proprietary information.