

ANNUAL OPERATING REPORT
1983

Idaho State University
AGN-201 Nuclear Reactor
Pocatello, ID 83209

1) Brief Narrative of Changes

There have been no changes in facility design, performance characteristics or operating procedures relating to reactor safety during calendar year, 1983.

Major surveillance was performed during the period in accordance with the Technical Specifications; the following is a summary of the results:

- a) A visual inspection of the control rod drive mechanisms was satisfactory.
- b) Scram drop times of all control rods were less than 100 milliseconds.
- c) Rod run-up times were measured and average reactivity insertion rates calculated. The maximum average reactivity insertion rate was .034% per second for the course control rod.
- d) Channel tests of all safety channels and interlocks have been satisfactory.
- e) Power and period calibrations were performed and no significant changes from the previous calibration were found.
- f) The shield tank was inspected and no excessive corrosion or water leakage was apparent.
- g) Shutdown margin was measured and found to be 1.92% reactivity.

2) Monthly Tabulation of Reactor Operating Hours for 1983:

<u>Month</u>	<u>Hours</u>	<u>Month</u>	<u>Hours</u>
January	11.13	July	1.32
February	7.39	August	1.67
March	8.58	September	8.99
April	10.54	October	6.62
May	0	November	7.38
June	0	December	1.20

3) List of Unscheduled Shutdowns: None

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4) Discussion of Major Safety Related Corrective Maintenance

On March 28, 1983, instrument number 2 experienced the same problem as instrument number 3 had (as was discussed in the last operating report). Instrument number 2 developed pin hole leaks in the aluminum housing containing the ion chamber. The housing was removed, repaired and re-installed.

5) Changes to the Facility

- a) There have been no changes to the facility as described in the application for license.
- b) There have been no changes to the procedures as described in the facility Technical Specifications.
- c) A new experiment was performed with the AGN-201 reactor during the calendar year, 1983. (See number 6 below.)

6) Summary of Safety Evaluations

A computer controlled graphite rod was temporarily installed in instrument port number 3. The experiment had been approved October 21, 1983 by the Reactor Safety Committee when it was demonstrated that:

- a) Excess reactivity of the reactor with the experiment installed would decrease 0.06%.
- b) The minimum period due to full rod insertion from critical was 48 seconds.
- c) The control rod worth was 0.20%.
- d) The average rate of reactivity insertion for the control rod was 0.013% per second.

These all were well within the limits of operation as stated in the Technical Specifications. Thus, the Committee found that no unreviewed safety questions existed.

7) Summary of Safety Evaluations

<u>Liquid</u>		<u>Airborne</u>		<u>Solid</u>	
Curies	Volume	Curies	Volume	Curies	Volume
0	0	0	0	0	0

8) Summary of Radiological Surveys Outside the Facility

No environmental surveys have been performed outside the facility.

- 9) No person received greater than 100 millirem during this reporting period, and no person under 18 years of age received greater than 50 millirem.



Idaho State University

Pocatello, Idaho

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June 20, 1984

Cecil O. Thomas, Chief
Division of Licensing Standardization
and Special Projects Branch
Mail Stop 34D
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Thomas:

Attached is the Annual Operating Report for the Idaho
State University AGN-201 Nuclear Reactor, License R-110,
Docket No. 50-284, for the calendar year, 1983.

Respectfully submitted,

Terry W. Smith
Reactor Supervisor

TWS:bgs

CC: V. Charyulu, Dean, School of Engineering
U.S. Nuclear Regulatory Commission
C/O Document Management Branch
Washington, DC 20555

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