DEPARTMENT OF VETERANS AFFAIRS
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In Reply Refer To: 636/151

October 11, 1996

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJ: Reply to a Notice of Violation REF: NRC Report 50-131/96-01

The following response is in accordance with the provisions of 10 CFR 2.201.

1. The OVAMC Reactor Facilities license (R-57) Technical Specifications states, in part, that there shall be written operating procedures that cover the surveillance, testing, and calibration of instruments, components, and systems involving nuclear safety. The Standard Operating Procedures generally provided adequate guidance to ensure that operations and surveillances were conducted properly . There were some procedures that were treated as unwritten procedures. There has not been more than two reactor operators at the same time for many years. Some procedures were passed on verbally rather than formally being written down.

During the time of inspection (Aug. 26-29) there were no written standard operating procedures for : (1) Time of Flight, (2) testing the pool level channel and, (3) checking the ventilation system operability. This is due in part to oversight of the reactor staff.

2. The Reactor Supervisor has approved of three additional standard operating procedures (see Appendix A):

SOP# 17 "Ventdamper check"
SOP# 18 "Pool level alarm check"
SOP# 19 "Time of flight"

3. The reactor staff and the reactor safeguards committee will be more rigorous in ensuring that the surveillances involving nuclear safety have their respective written procedures. The annual tech spec audit checklist has been modified as follows:

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6.7 (5) Surveillance, testing, and calibration of instruments, components, and systems involving nuclear safety. These shall include but are not limited to:

a. Control rod calibration
b. Reactivity worths of experiments
c. Control rod inspection
d. Scram time (Time of flight)
e. Pool level channel
f. Power calibration
g. Radiation monitoring equipment
h. Ventilation system
I. Criteria for experiments and irradiations
j. Fuel element inspection

4. The standard operating procedures were approved by the reactor supervisor on October 2, 1996. The procedures will be subject to review by the reactor safeguards committee during their next quarterly meeting in December 1996.

JOHN J. PHILLIPS
Director

Enclosures

cc: USNRC, Region IV

APPENDIX - A

Date: 10/2/96
SOP# 17

VENTDAMPER CHECK

1. Reactor Ventilation System

The reactor room ventilation system provides heated or cooled 100% outside air to the reactor laboratory though six ceiling outlet ducts. The exhaust effluent exits the reactor room into the outside air by means of an exhaust fan installed in the outside wall of the building. In addition, two laboratory fume hoods exhaust by means of fans located on the roof of the hospital building. Thus, the reactor area is kept at a slight negative pressure with respect to the rest of the hospital. The reactor area exhaust fan is operated continuously and has a starter switch mounted on the reactor console so that it can be started or stopped manually. The fan is equipped with a gravity-operated damper on the exhaust side, so that the exhaust damper will close when the fan is switched off or its power is interrupted. In addition, when the fan is stopped, a duct pressure control closes an absolute damper in the air supply duct and simultaneously causes an alarm to be initiated on the hospital Honeywell Delta-2000 control system, which is monitored continually. Thus, a single switch on the reactor console can stop air from entering or leaving the reactor laboratory and if the exhaust fan stops, the hospital ventilation engineers are immediately notified by the Honeywell computer system.

2. PURPOSE

Verifying that the reactor ventilation system is working on a monthly basis ensures its proper operation.

3. Method

1. The reactor operator turns the "area exhaust fan" switch on the reactor console to the OFF position.
2. He observes audibly that the exhaust fan has turned off.
3. After a few minutes, the "area exhaust fan" is switched to the ON position. The operator audibly determines airflow, moving through the ducts, from a vent above the reactor console. In addition, he can also hear when the fan is in motion again.

Reference to Tech. Specs. 4.2.4 and SAR 6-1

DATE: 10/2/96
SOP# 18

POOL LEVEL ALARM CHECK

1. REACTOR POOL

The reactor core is maintained in a tank of demineralized water. Cooling water flows from the reactor tank to a water monitor chamber. The circulating pump takes water from the monitor and discharges it through a refrigerated heat exchanger, the filter, the demineralizer. the flowmeter, and back into the reactor tank. Reactor coolant lost by evaporation from the pool surface is replaced by manually pouring demineralized water directly into the reactor pool.

The water cooling loop takes water from the reactor pool at a point about one meter below the pool surface. The reactor pool level alarm is mounted to the tank and a float is positioned at 12 feet above the core. In the event that the pool water level should sink below the float; the float lowers and activates a switch which sends a signal to the reactor console. The alarm is also sent to the VA telephone operators room which is manned 24 hours a day. The operator receives a audio and visual alarm.

2. PURPOSE

The objective is to verify the performance and operability of the pool level alarm system which is directly related to reactor safety.

3. METHOD

1. The telephone operator is called using the phone by the reactor console.
2. The pool level alarm is activated by depressing the float with a long pole.
3. The water level light on the console is on and the telephone operator confirms that he has observed a visual and audio alarm.

Reference to Tech. Specs. 4.2.2 (2)

TIME OF FLIGHT

1. Control Rods, Guide Tubes, and drives

A safety rod, a shim-safety rod, and a regulating rod are used to control the reactor. These three motor-driven control rods operate in perforated aluminum guide tubes held in place by the top and bottom grid plates. Each of the guide tubes, positioned by the bottom grid plate, is held firmly on the top grid plate by cap screws. Each control rod, consisting of a sealed aluminum tube containing boron carbide as the neutron absorber or poison, is approximately 16 in. long and has a maximum diameter of 7/8 in. The lower end of the tube is cone-shaped to reduce water resistance when the control rod assembly is re-inserted during a scram. The control rods have a maximum of 15.25 in. travel When a rod is in the "up" position. the bottom of the poison region is slightly above the top of the active fuel region.

The control rod drive mechanism (Fig. #1), is an electrically actuated linear motor drive equipped with a magnetic coupler. Its purpose is to adjust the height of the reactor control rod.

2. CONTROL ROD DROP

When the magnet is de-energized, releasing the armature. The connecting rod, piston, and control rod then drop, re-inserting the poison into the reactor.

A spring-loaded pull rod extends vertically through the housing and up through the block. This rod terminates at its low end in an adjustable foot that protrudes through a window into the side of the barrel The foot is so placed as to be depressed by the armature when the connecting rod is fully lowered.

3. PURPOSE

Measurement of the scram time, on an annual basis, is a check not only of the scram system electronics, but also is an indication of the capability of the control rods to perform properly as per the technical specifications.

4. METHOD

1. Data for "time of flight" times are kept in the reactor checklist (Fig. #2). The reactor daily checklist is completed prior to measurement.
2. A licensed reactor operator will be at the controls and an assistant at the control rod drive mechanism.
3. Each control rod will be measured separately so that at any one time two control rods are seated in the core.
4. The control rod covers are removed.

5. A control rod is raised to the full out position (indicated by the Magnet Up light).
6. The assistant will use a stopwatch to measure the time of flight and will keep the spring loaded pull rod under observation during each test.
7. The operator will communicate to the assistant that he has depressed the cont/on button. At that time, the assistant will start the stopwatch.
8. The assistant will stop the stopwatch when he observes the spring loaded pull rod depress the spring.
9. Each rod will be tested twice and an average taken. Readings will be compared to Tech. Specs. for compliance.

Reference to Tech. Specs. 6.7 (5) and 4.2.2 (1)

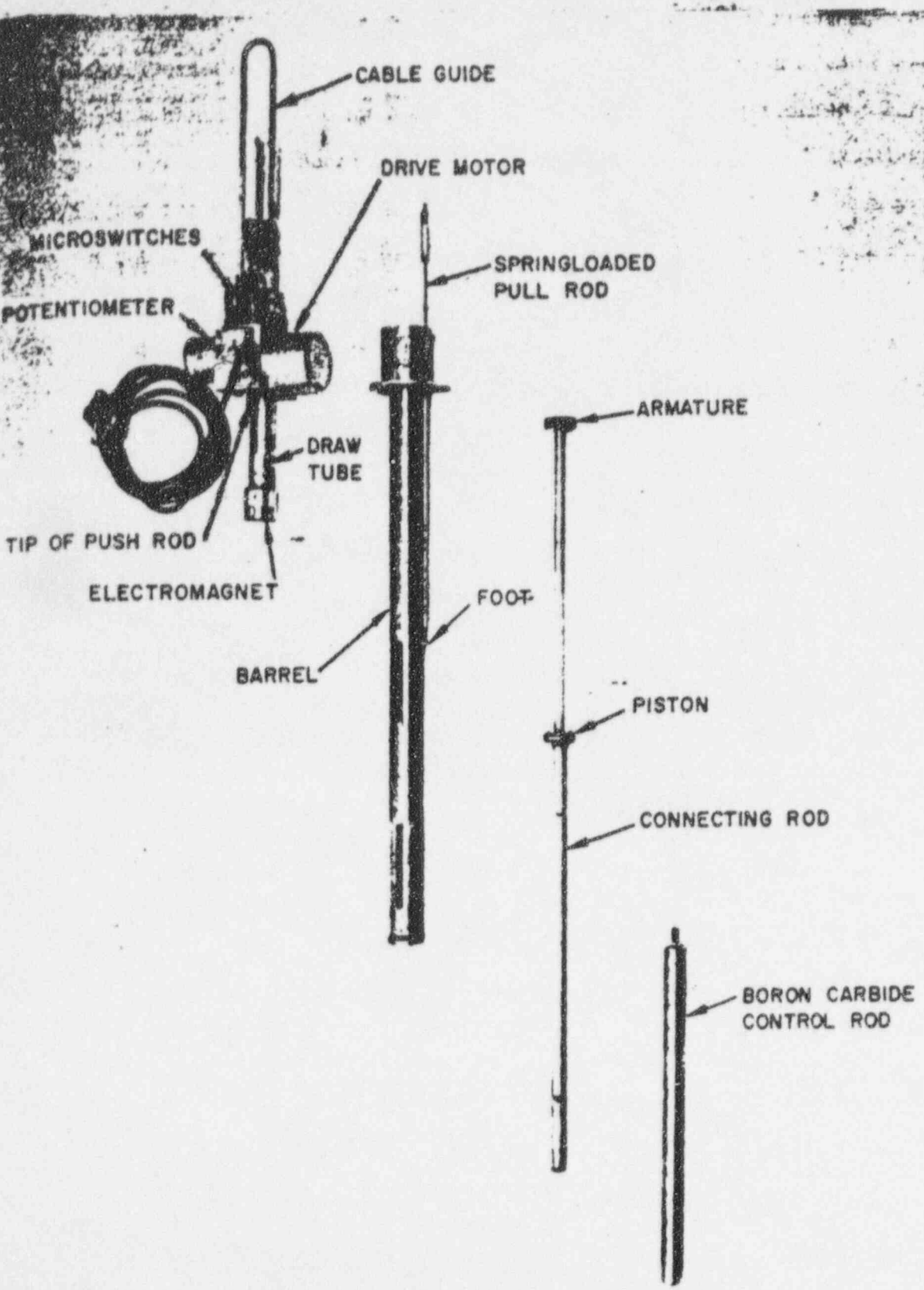

Figure 1 Control Rod Drive and Assembly

TIME OF FLIGHT OF ROD DROP

ROD	UP INDEX	RISETIME SEC.	DROP TIME #1 SEC.	DROP TIME #2 SEC.	AVERAGE SEC.
SAFETY					
SHIM					
REG.					

Figure 2