

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-184/90-01

Docket No. 50-184

License No. TR - 5

Licensee: U. S. Department of Commerce
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

Facility Name: NBS Reactor (NBSR)

Inspection Conducted: January 9-10, 1990

Inspector: Craig Z. Gordon 2/8/90
C. Z. Gordon, Emergency Preparedness
Specialist, Emergency Preparedness
Section, FRSSB, DRSS date

Approved by: W. J. Lazarus 2/12/90
W. J. Lazarus, Chief, Emergency
Preparedness Section, FRSSB, DRSS date

Inspection Summary: Inspection on January 9-10, 1990 (Report No. 50-184/90-01)

Areas Inspected: Routine, announced emergency preparedness inspection conducted by one NRC Region I based inspector of previously identified items, changes to the emergency preparedness program, emergency facilities and equipment, notifications and communications, and training, drills and exercises.

Results: No violations were identified. The Emergency Plan and Procedures were found to be implemented in a manner to adequately protect public health and safety.

9002260471 900213
PDR ADDCK 05000184
Q PNU

DETAILS

1.0 Persons Contacted

- * L. Lindstrom, Senior Operator
- * T. Raby, Chief, Reactor Radiation Division (RRD)
- T. Shackelford, Captain, Security
- J. King, Captain, Fire Department
- J. Torrence, Deputy Chief, RRD

*Denotes attendance at the exit meeting.

2.0 Licensee Action on Previously Identified Items

During the inspection the inspector reviewed the licensee's response to items identified during a previous inspection (Inspection Report No. 50-184/87-03).

CLOSED (50-184/87-03-01): No benefit to graded notification procedure which allowed up to four hours following serious emergencies for NRC notification.

Although the procedure still provides for graded NRC notification which is dependent upon classification, a review of response procedures and commitment from the Chief, Reactor Radiation Division indicated that NRC notification would be made as soon as practicable.

CLOSED (50-184/87-03-02): Type of self-reading dosimeters to be used during emergencies unclear.

In addition to 0-200 mR dosimeters which are assigned to individuals working in the reactor building, high range dosimeters (0-5 R and 0-20 R) are now designated for different types of emergencies.

CLOSED (50-184/87-03-03): Alert and Site Area Emergency classifications using stack monitor RD 4-1 precluded without operation of exhaust dilution fan.

The licensee added alarm trigger points to RD 4-1 for each level of emergency classification allowing classification of events either with or without dilution fan operation.

CLOSED (50-184/87-03-04): No direct signal into security station to indicate location of NBSR building fires.

Signal alarms and fire notifications made to the security desk are now divided into four general areas which provide firefighters advance notice of where fires are located.

CLOSED (50-184/87-03-05): Integrated exercise never conducted which included all support groups identified in Emergency Plan.

In December 1987 and September 1989 the licensee conducted emergency exercises which tested most major elements of the Emergency Plan and included participation by offsite support groups. Review of exercise results indicated that the Plan was successfully implemented and that all objectives were met.

CLOSED (50-184/87-03-06): Exercise critique results not always reflected in changes to emergency procedures.

The inspector reviewed an internal memo of December 1989 which documented exercise critique items to be factored into various program areas. Inspection of commitments made in the critique revealed that some items were implemented and that others were adequately addressed.

3. Operational Status of the Emergency Preparedness Program

3.1 Changes to the Emergency Preparedness Program

There have been no major changes to the Emergency Plan or Implementing Procedures since the last inspection. Changes such as upgrading of fire evacuation alarms and installation of the supplementary stack monitor (RM4-2) received engineering and safety committee review and approval prior to implementation. The plan is reviewed annually by the Chief, RRD and other staff members. A change was made in the location of the primary assembly area and appropriate personnel were notified of the change.

Based upon the above, this area is acceptable.

3.2 Facilities and Equipment

The inspector toured the Control Room, Emergency Support Center (ESC), security building, and fire station and noted only minor facility changes since the last inspection. Facility enhancements were identified by the addition of fire alarms in the ESC and security desk and additional telephones in the ESC. The inspector noted that a major change to the reactor building is currently in progress. The new Cold Neutron Research Facility located adjacent to the reactor is expected to begin operation within two years. The Chief, RRD indicated that emergency plans for the facility were considered by licensee staff and would be in place prior to operation. During the next inspection this area should be followed up to ensure that plans for the new facility are adequate. Designated emergency equipment, field kits, and instrumentation were calibrated and operable. Inventories of supplies and equipment were current.

Except as noted above, this area is acceptable.

3.3 Notifications and Communications

After an emergency is classified, the reactor Supervisor notifies operating staff, health physics, NIST management, and other site support groups who may be needed to assist in the response. Notifications are made via commercial telephones and portable radios. An extra telephone was added to the ESC to help improve initial notification, particularly to NRC. Off-hour emergency notifications are directed to the NIST security desk. The inspector toured the security building and fire department building, inspected changes made at the security desk to fire alarm and notification panels, and held discussions with security and fire response staff. Notification and communications capability are adequate and no concerns were identified.

Based upon the above review, this area is acceptable.

3.4 Training and Drills

The Senior Operator who is familiar with the Emergency Instructions Manual (implementing procedures) provides training for the Emergency Response Organization (ERO) via classroom and practical instruction. All reactor operators are members of the ERO and receive emergency response training. Review of training files indicated that information on previously identified NRC concerns and findings identified during drill critiques are covered in classroom lectures. Operators have attended recent emergency preparedness courses and have also participated in drills and exercises.

The licensee conducted exercises and building evacuation drills as required by the NBSR emergency plan. The drills were well documented and reviewed by the Chief, RRD. Problem areas were also identified and factored into training sessions. The 1987 and 1989 exercises were adequate in scope and tested major portions of the plan including coordination with support groups. A concern was identified with accountability of personnel inside the reactor building and the licensee stated that changes to procedures were being made. Since the last inspection, a drill involving a contaminated/injured victim was also held, but did not include participation by Bethesda Naval Hospital which is designated by the plan as the facility to provide medical assistance. RRD staff stated that future drills which included the hospital would be considered.

Except as noted above, this area is acceptable.

4.0 Exit Meeting

The inspector met with the licensee representatives listed in Section 1 of this report at the conclusion of the inspection and summarized the observations made during the inspection.

The licensee was informed that previously identified findings were adequately addressed and no violations were found. Licensee management acknowledged the findings and agreed to evaluate them as appropriate.