

U. S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-184/88-02

Docket No. 50-184

License No. TR-5

Priority -

Category -

Licensee: U. S. Department of Commerce  
National Bureau of Standards  
Gaithersburg, Maryland 20899

Facility Name: National Bureau of Standards

Inspection At: Gaithersburg, Maryland

Inspection Conducted: August 9-11, 1988

Inspector: *S. Sherbini*  
S. Sherbini, Senior Radiation Specialist

9/13/88  
date

Approved by: *M. Shanbaky*  
M. Shanbaky, Chief, Facilities Radiation  
Protection Section

9/13/88  
date

Inspection Summary: Inspection on August 9-11, 1988 (Report No. 50-184/88-02)

Areas Inspected: Routine, announced inspection to review the radiation protection program at the reactor facility. Areas inspected included determination of the implementation of the radiological safety and surveillance program as specified in the technical specifications. Other areas reviewed included staffing, qualifications, training, surveys, instrument calibration, and records.

Results: No violations were identified within the scope of this inspection.

## DETAILS

### 1.0 Personnel Contacted

- C. Campbell, Health Physics Technician
- \* R. Carter, Chief, Reactor Radiation Division
- D. Brown, Health Physicist
- \* T. Hobbs, Chief, Health Physics
- I. Jensen, Health Physics Technician
- U. Nelson, Health Physicist
- J. Shubiak, Health Physicist
- F. Moore, Health Physics Technician
- \* T. Raby, Deputy Chief, RRD
- \* L. Slaback, Supervisory Health Physicist

\* Denotes attendance at the exit meeting.

### 2.0 Findings

The basic organization of the radiation safety program at the reactor facility remains unchanged from that observed in the previous inspection. The Supervisory Health Physicist during the 1987 inspection has since been replaced by a health physicist from the Health Physics Section at NBS (L. Slaback). There has been no other significant personnel changes in the program.

The training program for radiation workers, including researchers, has been improved. The training material has now been placed on a computer system equipped with graphics capabilities. This allows the trainees to go through the training material at their own pace and it provides some quiz questions during the training sessions.

The radiation safety procedures remain largely unchanged since the previous inspection. The findings during that inspection were that the procedures were in need of a review to update them and to ensure that they reflect current practice on site. The newly appointed Supervisory Health Physicist stated that he is in the process of updating and upgrading selected procedures that are in need of an upgrade.

A review of the surveillance and radiological survey instruments calibration program showed that these functions are being performed as required by the Technical Specifications for the reactor facility. Records of the dates and results were found to be in order.

During the previous inspection, it was pointed out that the QA program on site lacks a quality control program for radiological survey and counting instruments. Although there appears to have been some improvement in this area, the situation regarding quality control remains essentially unchanged. Many quality control functions are being performed routinely, but the program is not clearly defined. The tests to be performed, the frequency for performing these tests, and the acceptance criteria, are generally not specified in a formal quality control document or program. The inspector stated that some of the quality control tests that should be performed were not being performed, and that there was no formal record or requirement that would have identified this deficiency. The licensee stated that they will develop a procedure to outline the QA/QC program, specify all the tests to be performed on all the instruments within the program, and also specify the acceptance criteria for these tests. This item will be reviewed during a future inspection.

The inspector reviewed the licensee's personnel dosimetry program and found it to be adequate to comply with the regulatory requirements of 10 CFR 20.101 and 20.202. The dosimetry services are provided by the dosimetry programs for the Army and the Navy, both of which are accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). The self reading dosimeters are calibrated and maintained by the reactor health physics personnel. Discussions with the licensee showed that the doses received by personnel were maintained at low levels, and there were no exposures in excess of the regulatory limit during the year preceding this inspection.

### 3.0 Exit Interview

The inspector met with the licensee representatives at the conclusion of the inspection on August 11, 1988. The inspector summarized the scope of the inspection and the findings.