August 29, 2003

Dr. J. M. Rowe, Director
Center for Neutron Research
National Institute of Standards and Technology
U. S. Department of Commerce
Gaithersburg, MD 20899

SUBJECT: NRC ANNOUNCED INSPECTION REPORT NO. 50-184/2003-203

Dear Dr. Rowe:

This letter refers to the inspection conducted on August 11-14, 2003, at your Test Reactor Facility, referred to as the National Bureau of Standards Reactor. The inspection included a review of activities authorized for your facility. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations of activities in progress. Based on the results of this inspection, no safety concern or noncompliance to NRC requirements was identified. No response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) http://www.nrc.gov/reading-rm/adams.html.

Should you have any questions concerning this inspection, please contact Craig Bassett at 404-562-4712.

Sincerely,

/RA by Daniel E. Hughes Acting For/

Patrick M. Madden, Section Chief
Research and Test Reactors Section
New, Research and Test Reactors Program (RNRP)
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No.: 50-184
License No.: TR-5

Enclosure: NRC Inspection Report No. 50-184/2003-203
cc w/enclosure: Please see next page

National Institute of Standards
and Technology

Docket No. 50-184

cc w/encl:

Montgomery County Executive
County Office Building
Rockville, MD 20858

Director
Department of State Planning
301 West Preston Street
Baltimore, MD 21201

Director
Department of Natural Resources
Power Plant Siting Program
Energy and Coastal Zone Administration
Tawes State Office Building
Annapolis, MD 21401

Dr. Seymour H. Weiss, Chief
Reactor Operations and Engineering
National Institute of Standards
and Technology
U.S. Department of Commerce
Gaithersburg, MD 20899

Honorable Michael L. Subin
Montgomery County Council
Stella B. Werner Council Office Building
Rockville, MD 20850

Test, Research, and Training
Reactor Newsletter
202 Nuclear Sciences Center
University of Florida
Gainesville, FL 32611-8300

Mr. David Brown, Senior Health Physicist
Reactor Group
Occupational Health and Safety Division
National Institute of Standards
and Technology
U.S. Department of Commerce
Gaithersburg, MD 20899

August 29, 2003

Dr. J. M. Rowe, Director
Center for Neutron Research
National Institute of Standards and Technology
U. S. Department of Commerce
Gaithersburg, MD 20899

SUBJECT: NRC ANNOUNCED INSPECTION REPORT NO. 50-184/2003-203

Dear Dr. Rowe:

This letter refers to the inspection conducted on August 11-14, 2003, at your Test Reactor Facility, referred to as the National Bureau of Standards Reactor. The inspection included a review of activities authorized for your facility. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations of activities in progress. Based on the results of this inspection, no safety concern or noncompliance to NRC requirements was identified. No response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) http://www.nrc.gov/reading-rm/adams.html.

Should you have any questions concerning this inspection, please contact Craig Bassett at 404-562-4712.

Sincerely,

/RA by Daniel E. Hughes Acting For/
Patrick M. Madden, Section Chief
Research and Test Reactors Section
New, Research and Test Reactors Program (RNRP)
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No.: 50-184
License No.: TR-5
Enclosure: NRC Inspection Report No. 50-184/2003-203
cc w/enclosure: Please see next page

DISTRIBUTION:

PUBLIC	RNRP/R&TR r/f	AAdams	CBassett
PDoyle	TDragoun	WEresian	FGillespie
SHolmes	DHughes	EHylton	PIsaac
JLyons	PMadden	MMendonca	CNagel

BDavis (Ltr only O5-A4) NRR enforcement coordinator (Only for IRs with NOVs, O10-H14)

ACCESSION NO.: ML032390707 **TEMPLATE #: NRR-**

OFFICE	RNRP:RI		RNRP:LA		RNRP:SC	
NAME	CBassett:rdr		EHylton		PMadden	
DATE	08/ 28 /2003		08/ 27 /2003		08/ 28 /2003	

C = COVER **E = COVER & ENCLOSURE** **N = NO COPY**

OFFICIAL RECORD COPY

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION

Docket No.:	50-184
License No.:	TR-5
Report No.:	50-184/2003-203
Licensee:	U. S. Department of Commerce
Facility:	National Bureau of Standards Reactor (NBSR)
Location:	National Institute of Standards and Technology Gaithersburg, MD 20899
Dates:	August 11-14, 2003
Inspector:	Craig Bassett
Approved by:	Patrick M. Madden, Section Chief Research and Test Reactors Section New, Research and Test Reactors Program (RNRP) Division of Regulatory Improvement Programs Office of Nuclear Reactor Regulation

EXECUTIVE SUMMARY

National Institute of Standards and Technology
Report No.: 50-184/2003-203

The primary focus of this routine, announced inspection was the onsite review of selected aspects and activities at the National Bureau of Standards Reactor (NBSR) facility related to operation of the 20 Megawatt (MW) Class 1 Test Reactor. It included a review of the licensee's safety programs including: organizational functions and staffing, reactor operations, design control, review and audit, operator requalification, maintenance and surveillance, fuel handling, experiments, procedural control, and emergency preparedness since the last NRC inspection of this facility. The licensee's programs were acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements.

Organizational Functions and Staffing

- The organizational structure, supervisory qualifications, and staffing were consistent with Technical Specifications Section 7.1 requirements.

Reactor Operations

- NBSR reactor operations and operating parameters, shift turnovers, and operator cognizance of facility conditions were acceptable.

Design Control, and Review and Audit

- The design change program satisfied NRC requirements.

- The Safety Evaluation Committee was meeting as required and reviewing the topics outlined in the Technical Specifications.

Operator Requalification

- Operator requalification was being conducted and completed as required by the Requalification Program.

Maintenance

- The maintenance program was being conducted in accordance with applicable procedural requirements.

Surveillance

- The surveillance program was being completed as specified in Technical Specification requirements.

Fuel Handling

- Fuel movement was accomplished in accordance with Technical Specification and procedural requirements.

Experiments

- The program for experiment review and approval satisfied Technical Specification and procedural requirements.

Procedures

- The procedural revision, control, and implementation program satisfied Technical Specification requirements.

Emergency Preparedness

- The emergency preparedness program was generally conducted in accordance with the Emergency Plan.

Security

- The upgrades to the security systems and equipment, that the licensee had committed to install, had been completed.

REPORT DETAILS

Summary of Plant Status

The licensee's National Bureau of Standards Reactor (NBSR), a 20 MW Test Reactor, continues to be operated in support of laboratory experiments, reactor operator training, and various types of research. During the inspection, the reactor was shut down for maintenance and refueling.

1. Organizational Functions and Staffing

a. Inspection Scope (Inspection Procedure [IP] 39745)

The inspector reviewed selected aspects of the following:

- NBSR organization and staffing
- management and staff responsibilities outlined in Technical Specifications, Revision 8, dated March 31, 1997
- NBSR Console Logbooks Numbers 109 through110

b. Observations and Findings

Through discussions with licensee personnel and review of pertinent documents, the inspector determined that the licensee's organizational structure had not changed since the last inspection in the area of reactor operations (refer to NRC Inspection Report No. 50-184/2002-202). As a result, the organizational structure remained consistent with the requirements of Technical Specifications (TS) Section 7.1 and Figure 7.1. The inspector also found that key supervisory personnel in Reactor Operations exceeded the minimum qualifications, with regard to education and experience, specified in the TS.

Through a review of the reactor operations Console Logbooks for the period from December 2002 to the present and interviews with operations personnel, the inspector determined that there were four operating crews at the facility. Each was staffed with at least three individuals who were licensed senior reactor operators (SROs) while two crews had four people assigned per crew. Staffing during reactor operation satisfied the requirements of TS Section 7.1.

c. Conclusions

The organizational structure, supervisory qualifications, and staffing were consistent with TS Section 7.1 requirements.

2. Reactor Operations

a. Inspection Scope (IP 39745)

The inspector reviewed selected aspects of the following:

- NBSR Console Logbooks (Nos. 109 through110)
- NBSR Reactor Shift Supervisor Logbook (No.30)

- Shift Supervisors Instructions and Special Log
- associated reactor operations records from January 2003 to the present
- shift turnover sheets for May, June, and July 2003
- Operating Instruction (OI) 1.1, "Reactor Startup", issued December 10, 1997
- OI 3.1, "Operation of the Secondary Cooling System", issued December 5, 2002
- OI 3.1 Checklist, "Secondary Cooling System Valve Check List", issued August 20, 2002

b. Observations and Findings

The operating logs and records were clear and provided an indication of operational activities. The logs and records indicated that shift staffing was as required by TS. Logs and records also showed that operational conditions and parameters were consistent with license and TS requirements and that these conditions and requirements were satisfied. Reactor startup procedure, OI 1.1, required verification of each of the limiting conditions for operation specified in TS sections 3.1 through 3.11 prior to startup. These verifications were being recorded as required.

Through record reviews and direct observations, the inspector also verified that shift turnover briefings were held during each shift change and that activities of the previous shift were discussed in detail. The records kept and the briefings that were given indicated that the operators were aware of the conditions existing in the facility and the status of equipment and experiments in progress.

c. Conclusions

Reactor operations and operating parameters, shift turnovers, and operator cognizance of facility conditions were acceptable.

3. Design Control, and Review and Audit

a. Inspection Scope (IP 40745)

In order to ensure that the audits and reviews stipulated in the requirements of TS Sections 7.2 and 7.3 were being completed and to verify that any modifications to the facility were consistent with 10 CFR 50.59, the inspector reviewed the following:

- Guidelines for Completing Engineering Change Notices, issued November 24, 2000
- Engineering Change Notice (ECN) No. 462, "Simplified Beam Tube Shutter Control," approved August 19, 2002
- ECN No. 463, "Replacement of Intermediate Range Nuclear Drawers, approved November 5, 2002
- ECN No. 463, Revision A, "Replacement of Intermediate Range Nuclear Drawers, approved February 24, 2003
- ECN No. 464, "Replacement of Delta-T, Flow, and Thermal Power Recorders," approved January 8, 2003
- Safety Evaluation Committee meeting minutes for August 2002 through the present (Meeting Nos. 352, 353, and 354)

- Safety Audit Committee report for the year 2002
- "An Assessment of the National Institute of Standards and Technology Measurement and Standards Laboratories," conducted by the Subpanel for the NIST Center for Neutron Research as required by the National Research Council of the National Academies for Fiscal Year 2002

b. Observations and Findings

(1) Design Change Control

The inspector reviewed selected changes to the facility and/or equipment that had been proposed within the last year. The changes were designated as ECNs and numbered sequentially during the year. Each ECN contained sections detailing the design description, safety considerations and analysis, and a safety evaluation and conclusions. The completed ECNs demonstrated that changes were acceptably documented and reviewed in accordance with the TS and the licensee's guidelines. None of the changes reviewed by the inspector represented a safety question or required a license amendment.

(2) Committee Review

Records of the meetings held by the Safety Evaluation Committee (SEC) from August 2002 through the date of the inspection were reviewed. The meeting minutes showed that meetings were held as required and reviews of proposed changes and experiments were conducted by the SEC or a designated subcommittee. The minutes also indicated that the SEC provided appropriate guidance and direction for reactor operations, and ensured suitable use and oversight of the reactor.

The audit records showed that the last annual independent audit by the Safety Audit Committee (SAC) had been completed during October 2002. The audit report indicated that the NBSR operations and the performance of the SEC were reviewed as outlined in the TS. The SAC found that reactor operations were being conducted appropriately and that the SEC was doing a good job of reviewing and advising on the safety aspects of experiment proposals and engineering change notices.

c. Conclusions

The design change program satisfied NRC requirements. The Safety Evaluation Committee was meeting as required and reviewing the topics outlined in the TS.

4. Operator Requalification

a. Inspection Scope (IP 69003)

To verify compliance with the Requalification Program, which was dated September 12, 1977, the inspector reviewed:

- status of selected qualified operators' licenses
- operator training and examination records for the years 2000-2003
- NBSR Operator Active Status Log for the year 2001-2002
- medical exam records from 1999-2003

b. Observations and Findings

There are currently 21 SROs employed at the facility. The inspector verified that the SROs' licenses were current and that records of the requalification program were being maintained as required.

A review of program records showed that operator training was consistent with the Requalification Program requirements. The inspector confirmed that the operators were being given annual operating evaluations and were acceptably completing biennial written examinations. NBSR Operator Active Status Logs and records also showed that operators maintained active duty status by participating in the reactivity manipulations and document reviews as outlined and required in the Requalification Program.

The inspector also verified that the qualified operators were receiving a biennial physical examination as required.

c. Conclusions

Operator requalification was being conducted and completed as required by the licensee's Requalification Program.

5. Maintenance

a. Inspection Scope (IP 39745)

To ensure that maintenance activities were being completed as required, the inspector reviewed selected aspects of:

- Reactor Operations Reference Procedure 3, "Cooling the Reactor with H-3 and Water," expiration date September 26, 2002
- Reactor Operations Reference Procedure 5, "Pump Shaft End Bearing Change," expiration date September 26, 2012
- Reactor Operations Reference Procedure 10, "Cooling Tower Basin Pump Out," expiration date September 26, 2002
- Mechanical Maintenance Log Book and related maintenance records

Because the reactor was shutdown during the inspection, the inspector was also able to observe maintenance evolutions that were in progress.

b. Observations and Findings

The inspector observed various maintenance activities being conducted during the inspection including the cooling tower basin pump out and repair. The basin pump out was completed in accordance with procedure.

A review of maintenance records and logs showed that routine maintenance activities were conducted at the required frequency and in accordance with the applicable procedure or equipment manual. Maintenance activities ensured that equipment remained consistent with the Safety Analysis Report and Technical Specification requirements.

c. Conclusions

The maintenance program was being conducted as required by procedure.

6. Surveillance

a. Inspection Scope (IP 61745)

To determine that surveillance activities and calibrations were being completed as required by TS Section 5, the inspector reviewed:

- Reactor Technical Specification Log Book, Volume 2
- Technical Specification Surveillance List (updated and issued monthly)
- Technical Specification (Tech Spec) Procedure 5.1.2, "Operation of Reactor Building Leak Rate Test System," issued July 23, 1999
- Tech Spec Procedure 5.3.2, "Withdrawal and Insertion of Each Shim Arm and Regulating Rod," issued July 23, 1999
- Tech Spec Procedure 5.8.3, "Testing of Emergency Power Equipment Under Simulated Loss of All Outside Power," approved December 20, 1995
- Annunciator Procedure (AP) 0.1, "D_2O System Rupture," issued March 18, 1998
- AP 0.5, "Primary Pump Failure," issued July 21, 1995
- AP 1.70, "AN 1-70: Cold Source Trouble," issued April 30, 1998
- AP 3.29, "AN 3-29: Thermal Column Surge Tank Level Low," issued January 13, 2003
- associated surveillance and calibration checklists and records

b. Observations and Findings

Although the TS did not require procedures for the conduct of surveillances and calibrations, appropriate procedures, checklists, and data records had been developed by the licensee and were readily available for use. The frequency that these activities were to be performed was specified in the TS.

The completion and results of the surveillances and calibrations were tracked by operations personnel and by the Deputy Chief, Reactor Operations and Engineering. A review of the records indicated that the surveillances and calibrations were generally completed in accordance with the schedule specified in the TS and as according to procedure. If the activity could not be completed within the established time frame, the

reason for the delay was typically documented in the logs or records. All results reviewed by the inspector were within the TS or the procedurally prescribed parameters.

c. Conclusions

The surveillance program was being conducted as specified by Technical Specification requirements.

7. Fuel Handling

a. Inspection Scope (IP 60745)

The inspector reviewed selected aspects of the following to verify that fuel movement and handling was being conducted as required by TS Sections 3.7, 3.8, and 6.3:

- Core Loading Sheets Nos. 550 through 554
- Core Loading Verification and Sign-off sheets
- Pool log and fuel transfer records from January 2003 to the present
- reactor operations logs and records from January 2003 to the present
- OI 6.1, "Fueling and Defueling Procedures," originally issued August 20, 1997, with modifications dated March 17, 1998 and July 23, 1999
- OI 6.2, "Operation of the Fuel Transfer System," originally issued October 8, 1998, with modifications dated February 25, 2002
- OI 6.3, "Operation of Spent Fuel Cutting Tool," issued April 23, 1999
- associated data sheets, checklists, and records

b. Observations and Findings

Operating Instructions 6.1 through 6.3 provided prescribed methods to move, handle, and cut spent fuel consistent with the provision of the Technical Specifications and the licensee safety analyses. Fuel movement and fuel examination records and observations showed that the fuel was moved and verified as required. Records and observations also showed that fuel handling and monitoring equipment was operable. Personnel were knowledgeable of the procedural and equipment requirements for criticality control and assurance of fuel integrity. Radiological precautions met the requirements stipulated in the applicable Radiation Work Permits.

c. Conclusions

Fuel movement was conducted in accordance with TS and procedural requirements.

8. Experiments

a. Inspection Scope (IP 69005)

To ensure that the requirements of TS Section 4.0 and licensee administrative procedures were being met governing experimental programs, the inspector reviewed selected aspects and/or portions of:

- "Guidelines for Preparation of Experimental Proposals," revised March 8, 1994, which required the inclusion of such subjects as: 1) scope of experiment, 2) 10 CFR 50.59 evaluation, and 3) potential hazards identification and reactivity assessment
- experiment review and approval process
- Experimental Proposal Approval Sheet, No. 428, "Neutron Imaging Facility (NIF) at the BT-6 Station," dated June 2, 2003
- Experimental Proposal Approval Sheet, No. 429, "Hydrogen Fuel Cell System at the BT-6 Station," dated June 3, 2003

b. Observations and Findings

Experiments at the NBSR, as defined by the TS, occur inside the thermal shield, i.e., in the core. The reactivity worth and other criteria for these in-core experiments are delineated in TS 4.0. The inspector interviewed the Beam Experiments Coordinator who stated that no new or unknown type of in-core experiments had been initiated, reviewed, or approved for several years.

Since the TS did not include criteria for beam port experiments, the licensee developed administrative guidelines to extend the review and approval requirements in TS 7.2 to the beam port and guide hall experiments. In 1970, an Irradiation Subcommittee was appointed by the SEC to review experiments and provide recommendations. This included pneumatic tube (rabbit) irradiations. An irradiations database of SEC approved protocols was created and was being maintained. New proposals were compared to this database by the subcommittee. Experiments that were determined to be outside the envelope of the database parameters required SEC approval.

The licensee also developed a separate database of approved beam experiments which was being maintained and used by the subcommittee similar to the in-core experiments. A review of the records indicated that new beam port and guide hall experiments have been proposed. Upon reviewing selected experiment proposals, the inspector verified that they were being reviewed and approved by the SEC as specified by the licensee's administrative requirements The inspector also noted that engineering and radiation protection controls were required to be implemented to limit radiation exposure to personnel conducting the experiments.

c. Conclusions

The program for experiment review and approval satisfied Technical Specification and procedural requirements.

9. Procedures

a. Inspection Scope (IP 42745)

The inspector reviewed the following to ensure that the requirements of TS Section 7.4 were being met concerning written procedures:

- Administrative Rule (AR) 5.0, "Procedures and Manuals," issued September 1, 1986

- procedure change process
- procedural implementation

b. Observations and Findings

Written procedures for the activities listed in TS 7.4 were available as required. The inspector verified that the official, approved copies of the Reactor Operations Group procedures were kept in the control room as stipulated by procedure.

The inspector noted that procedure changes can be initiated by any operator or can result from an ECN. The process to temporarily or permanently change a procedure was outlined by the licensee as follows: 1) draft procedures were developed by the Deputy Chief, Reactor Operations to assure consistency, 2) drafts were circulated to the operations staff for review and comment, and 3) final versions were screened using the criteria of 10 CFR 50.59, reviewed, approved, and issued as described in TS 7.4. The inspector verified that the procedures were reviewed by the SEC and approved by the Deputy Chief, Reactor Operations as specified in the TS.

c. Conclusions

The procedures and procedure changes satisfied Technical Specification requirements.

10. Emergency Preparedness

a. Inspection Scope (IP 82745)

To verify compliance with the Emergency Plan, the inspector reviewed selected aspects of:

- NBSR Emergency Plan, dated September 30, 1982, with the latest revision dated April 28, 1997
- Emergency Instruction (EI) 2.5, "Fuel Element Damage," dated December 20, 2000
- EI 3.2.4, "Site Area and Control Room Evacuation," dated December 20, 2000
- EI 4.4, "Emergency Equipment," dated December 20, 2000
- EI 5.1, "Instructions to NIST Physical Security," dated November 10, 1997
- EI Figure 6.3, "Emergency Organization Phone Numbers," dated December 7, 2002
- emergency response facilities, supplies, equipment, and instrumentation
- training records for 2001 - 2003
- offsite support (NIST Fire Department and Police Department)
- emergency drills and exercises

b. Observations and Findings

The Emergency Plan (E-Plan) in use at the reactor and support facilities was the same as the last version approved by the NRC. The E-Plan was audited and reviewed annually as required. Implementing procedures, designated as Emergency Instructions by the licensee, were reviewed and revised as needed to implement the E-Plan effectively. The inspector verified that operators understood their duties in response to emergency conditions.

During the review of the E-Plan, the inspector noted that the licensee's initial point of contact in the NRC following an event was listed as Region I in Section 7.1.a.1. The inspector indicated that the primary point of contact should be the NRC Operations

Center, not the region. It was also noted that the E-Plan listed self-contained breathing apparatus (SCBAs) as part of the emergency equipment that should be inventoried annually by the licensee. The licensee no longer had SCBAs on hand for use nor did the facility have a program for training personnel on their use or maintenance. The inspector informed the licensee that these two items should be changed so that the E-Plan reflected the correct point of contact in the NRC and the actual items of emergency equipment at the facility. This issue will be tracked by the NRC as an Inspector Follow-up Item (IFI) and will be reviewed during a future inspection (IFI 50-184/2003-203-01).

Records showed that communications capabilities were checked annually, as stipulated in the E-Plan. The last emergency exercise was conducted on March 26, 2002, and the last emergency drill was held on October 4, 2002. Critiques were held following the exercise and drill to discuss the strengths and weaknesses identified and to develop possible solutions to any problems identified. The results of the critiques were documented and filed.

Emergency preparedness and response training for NBSR personnel was being completed as required. Biennial training for NIST fire fighting and police personnel, although not required by the E-Plan, was being conducted as well.

While reviewing the results of the annual inventories required by E-Plan Section 8.5, the inspector noted that the emergency equipment in the locker located in the Emergency Control Station did not appear to have been inventoried as required and the licensee was informed. Upon further investigation, the licensee found that Health Physics (HP) personnel were verifying that the equipment in the locker was present, but this was done on a somewhat random basis. However, it was determined that the HP reviews had been completed at least annually. Because no apparent schedule or routine had been established to conduct the annual inventory, the licensee indicated that the inventory would be conducted and the results documented on a scheduled basis. This issue will be tracked by the NRC as an IFI and will be reviewed during a future inspection (IFI 50-184/2003-203-02).

According to the licensee, the agreement with the Bethesda Naval Medical Hospital for medical support in case of an emergency, originally signed December 22, 1983, was current and acceptable. The Radiation Safety Office at the hospital was contacted by the inspector to review the agreement and verify that the proper support would be available in case of an emergency. Personnel at the hospital appeared to be unaware of the agreement. Although there has not been a problem with support from the hospital in the past, this is an area that should be pursued by the licensee to ensure that the hospital remains cognizant of the agreement with NIST and to ensure that there is a good working relationship between the staff at the hospital and the NBSR.

c. Conclusions

The emergency preparedness program was generally conducted in accordance with the Emergency Plan.

11. Security

a. Inspection Scope (IPs 81421, 81810 and 92703)

To verify that the licensee had completed actions indicated in a letter to the NRC dated February 27, 2003, the inspector reviewed:

- security systems, equipment and instruments
- records, and reports concerning security
- facility access and control

b. Observations and Findings

Through correspondence from the NRC to the licensee dated June 21, 2002, the NRC requested that the licensee develop site-specific compensatory measures with respect to physical security. In response the licensee issued a letter on September 24, 2002, detailing the actions that would be taken. The NRC then issued a Confirmatory Action Letter to the licensee on October 28, 2002, stipulating that the actions be implemented. In a letter to the NRC dated February 27, 2003, the licensee indicated that the upgrade project had been delayed including completion of the barrier system surrounding the facility. The licensee stated that actions to complete construction of the physical security barriers would be completed by the end of July. In a letter to the NRC dated July 3, 2003, the licensee indicated that all commitments regarding the physical security upgrades had been fulfilled. The inspector reviewed the physical protection barriers and equipment that the licensee had installed. The actions taken by the licensee satisfied the commitments made to the NRC.

c. Conclusions

The upgrades to the security systems and equipment, that the licensee had committed to install, had been completed.

12. Exit Interview

The inspection scope and results were summarized on August 14, 2003, with members of licensee management. The inspector described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector.

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel

R. Beasly, Reactor Supervisor/Senior Reactor Operator
P. Brand, Chairman, Safety Evaluation Committee
F. Clark, Reactor Supervisor/Senior Reactor Operator
J. Clark, Health Physicist, Occupational Health and Safety Division
H. Dilks, Reactor Supervisor/Senior Reactor Operator
R. Dimeo, Beam Experiments Coordinator
W. Mueller, Reactor Supervisor/Senior Reactor Operator
M. Rowe, Director, Center for Neutron Research
A. Toth, Reactor Supervisor/Senior Reactor Operator
J. Tracy, Health Physicist, Occupational Health and Safety Division
S. Weiss, Chief, Reactor Operations and Engineering
D. Wilkison, Reactor Supervisor/Senior Reactor Operator

Other Personnel

S. Aminjoyo, Executive Secretary, Indonesian Nuclear Energy Control Board (Badan Pengawas Tenaga Nuklir [BAPETEN])
A. Djaloeis, Chairman, BAPETEN
T. Tylka, HM1, Radiation Health Technician, NNMC, Radiation Safety Office, Bethesda Naval Hospital
A. Zarkasih, Director of the Safeguards Center, BAPETEN

INSPECTION PROCEDURES USED

IP 39745	Class I Non-Power Reactors Organization, Operations, and Maintenance Activities
IP 40745	Class I Non-Power Reactor Review and Audit and Design Change Functions
IP 42745	Class I Non-Power Reactor Procedures
IP 60745	Class I Non-Power Reactor Fuel Movement
IP 61745	Class I Non-Power Reactor Surveillance
IP 69003	Class I Non-Power Reactor Operator Licenses, Requalification, and Medical Activities
IP 69005	Class I Non-Power Reactor Experiments
IP 81421	Fixed Site Physical Protection of Special Nuclear Material of Moderate Strategic Significance
IP 81810	Protection of Safeguards Information
IP 82745	Class I Non-Power Reactor Emergency Preparedness
IP 92703	Follow-up on Confirmatory Action Letters

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-184/2003-203-01	IFI	Follow-up on changes to the Emergency Plan to reflect the correct point of contact in the NRC following an emergency and the actual items of emergency equipment at the facility.
50-184/2003-203-02	IFI	Follow-up to ensure that annual inventories required by Section 8.5 of the E-Plan, involving the emergency equipment in the locker located in the Emergency Control Station, are completed and documented.

Closed

None

LIST OF ACRONYMS USED

AP	Annunciator Procedure
CFR	Code of Federal Regulations
ECN	Engineering Change Notice
EI	Emergency Instruction
E-Plan	Emergency Plan
IFI	Inspector Follow-up Item
IP	Inspection Procedure
IR	Inspection Report
MW	Megawatt
NBSR	National Bureau of Standards Reactor
NIST	National Institute of Standards and Technology
Nos.	Numbers
NRC	Nuclear Regulatory Commission
OI	Operating Instruction
SAC	Safety Audit Committee
SCBA	Self-contained breathing apparatus
SEC	Safety Evaluation Committee
SRO	Senior Reactor Operator
TS	Technical Specification