September 6, 2002

Mr. Richard K. Smith
Director - Environmental Remediation
Viacom Inc.
11 Stanwix Street
Pittsburgh, PA 15222-1312

SUBJECT: NRC INSPECTION REPORT NO. 50-22/1999-202

Dear Mr. Smith:

This letter refers to the inspection which was conducted on October 27-28, 1999, and January 17-20, April 19-21, and May 14-16, 2000, at the Westinghouse Test Reactor at Waltz Mill. The enclosed report presents the results of that inspection.

Various aspects of your decommissioning and safety programs were inspected, including selective examinations of procedures and representative records, interviews with personnel, and observations of the facility.

Based on the results of this inspection, no safety concern or noncompliance with Nuclear Regulatory Commission (NRC) requirements was identified. No response to this letter is required.

Although this inspection documents the removal of the reactor vessel internal contents, the reactor vessel, and the biological shield, you should note that two provisions of the Final Decommission Plan still need to be accomplished prior to termination of the TR-2 license. These are determining the residual radioactivity remaining in-situ and preparing the necessary amendments for and requesting the transfer of the remaining residual radioactivity and WTR facilities to the SNM-770 License.

We thank you for your letter of March 25, 2002 updating us on the current status of decommissioning activities and the discussions between Viacom and Westinghouse Electric Company on the transfer of the remaining residual radioactivity and WTR facilities to the SNM-770 License. We encourage you to continue focusing on completing the TR-2 decommissioning plan, as you have described in your letter. Please inform us if the situation described in you letter of March 25, 2002, changes.

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 Mr. Stephen Holmes at 301-415-8583.

Sincerely,

/RA/

Patrick M. Madden, Section Chief
Research and Test Reactors Section
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 50-22
Enclosure: NRC Inspection Report No. 50-22/1999-202

cc w/enclosure: Please see next page

cc:

Mr. James G. Yusko
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Test, Research, and Training
Reactor Newsletter
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

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

Docket No:	50-22
Report No:	50-22/1999-202
Licensee:	VIACOM /Westinghouse Electric Company Division
Facility:	Westinghouse Test Reactor
Location:	Waltz Mill, Pennsylvania
Dates:	October 27-28, 1999, January 17-20, April 19-21, and May 14-16, 2000
Inspector:	Stephen W. Holmes, Reactor Inspector
Approved by:	Patrick M. Madden, Section Chief Research and Test Reactors Section Operating Reactor Improvements Program Division of Regulatory Improvement Programs Office of Nuclear Reactor Regulation

EXECUTIVE SUMMARY

Viacom
Westinghouse Test Reactor at Waltz Mill Facility
Report No: 50-22/1999-202

The primary focus of this routine, announced inspection conducted on October 27-28, 1999, and January 17-20, April 19-21, and May 14-16, 2000, was the on-site review of selected decommissioning activities at the Viacom, Westinghouse Test Reactor at the Waltz Mill facility. This facility is a Class III test reactor. The activities audited during this inspection included: organization and staffing; review and audit functions; plant decommissioning; procedures; maintenance and surveillance; radiation protection program; effluent and environmental monitoring; the shipment of radioactive material; and training.

Organizational and Staffing

- The decommissioning organizational structure and functions were consistent with Technical Specification Section 6.0-Administrative Controls and the Final Decommissioning Plan.

Review and Audit Functions

- The review and audit program satisfied Technical Specification requirements.

Plant Decommissioning

- Reactor decommissioning, shift turnover, and logs were acceptable.

- The control and performance of decommissioning activities were being performed in accordance with procedural requirements.

- Removal and disposal of the biological shield and reactor tank were performed as required by the Final Decommissioning Plan, licensee procedures and Department of Transportation requirements.

Procedures

- Based on the procedures and records reviewed and observations of staff during the inspection, the procedural control and implementation program satisfied Technical Specification requirements.

Maintenance and Surveillance

- The licensee's program for surveillance and limiting conditions for operation confirmations satisfied Technical Specification requirements.

- The maintenance program was being implemented as required by Westinghouse Test Reactor procedures.

- The licensee's design change procedures were in place and were implemented as required.

Radiation Protection Program

- The radiation protection program satisfied the requirements of 10 CFR 19.12 and 10 CFR 20.1101.

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- Radiological postings satisfied regulatory requirements.

- Surveys were performed and documented as required by 10 CFR 20.1501(a), Technical Specifications, and licensee procedures.

- The personnel dosimetry program was acceptably implemented and doses were in conformance with licensee and 10 CFR Part 20 limits.

- Portable survey meters, radiation monitoring, and counting lab instruments were being maintained according to Technical Specifications, industry/equipment manufacturer standards, and licensee procedures.

- The respiratory protection program implemented by the licensee was acceptable and in compliance with 29 CFR 1910.134.

Effluent Monitoring

- The effluent monitoring and release program satisfied NRC requirements.

- The stack continuous air monitor event was handled and documented as required.

Transportation of Radioactive Materials

- Transportation of byproduct material by the licensee satisfied the applicable NRC and Department of Transportation regulations and in accordance with Westinghouse Test Reactor procedures.

Emergency Preparedness

- The emergency preparedness program was conducted and implemented in accordance with Westinghouse Test Reactor procedures.

Security

- The physical protection features, procedures, equipment, and access control of the Waltz Mill site and the Westinghouse Test Reactor, satisfied site procedures and the access control plan.

Training

- The 10 CFR Part 19 and Final Decommissioning Plan required radiation worker training was performed in accordance with established procedures.

REPORT DETAILS

Summary of Plant Status

During this inspection the Westinghouse Test Reactor (WTR) was undergoing active decommissioning in accordance with the TR-2 Final Decommissioning Plan dated July 25, 1997, as supplemented on March 20 and July 10, 1998, and authorized by License Amendment No. 8, dated September 30, 1998. At the time of this inspection, the Licensee's activities were specifically focused on the dismantling and removal of the reactor tank, its internal contents, and the surrounding biological shield. The Licensee's determination of residual radioactive material that will be left in-situ and its transfer to the SNM-770 materials license was ongoing at the time of this inspection.

Introduction

1. Changes, Organization, and Staffing

a. Inspection Scope (Inspection Procedure [IPs] 39745 and 69001)

The inspector reviewed selected aspects of:

- organizational structure
- staffing requirements for safe operation of the research reactor facility
- qualifications
- administrative controls

b. Observations and Findings

During the time covered by this report, the license was transferred from CBS Corporation to VIACOM. However, the Waltz Mill site organizational staff had not functionally changed. The management and decommissioning structure consisted of Level 1- Individual responsible for the license, Level 2-Individual responsible for facility activities, and Level 3-Individual responsible for day-to-day supervision as outlined in Technical Specification (TS) Section 6.1, "Organization", authorized by Amendment No. 10 dated November 23, 1999, and charted in Table 2-13 (revision 2) of the Final Decommissioning Plan (FDP). The inspector verified that these positions were filled, interviewed the individuals, and determined that they were knowledgeable about their duties and responsibilities as required by FDP Section 2.4.

c. Conclusions

The decommissioning organizational structure and functions were consistent with TS Section 6.0, Administrative Controls and the FDP.

2. Review and Audit Functions

a. Inspection Scope (IPs 40745 and 69001)

The inspector reviewed selected aspects of:

- Radiation Safety Committee (RSC) minutes
- safety review records
- audit records
- responses to safety reviews and audits
- review and audit personnel qualifications

b. Observations and Findings

Review of the RSC membership and quarterly meeting schedule confirmed that they met TS Section 6.2, “Radiation Safety Committee”, and the Committee's charter requirements. The inspector reviewed the 1999 and 2000 minutes of the RSC and determined that they provided guidance, direction, and decommissioning oversight. The RSC reviewed and approved new procedures and radiological safety significant revisions to existing ones, FDP and facility 10 CFR 50.59 changes, and TS and license change requests, as required by TS Section 6.2.3, “Review Requirements”, FDP Section 2.4, “Decommissioning Organization and Responsibilities”, and NRC regulations.

Committee minutes and audit records showed that safety reviews and audits were conducted as required by TS Section 6.2.4, “Audit Requirements”, and the Committee’s charter. The content of the safety reviews were found by the inspector to be consistent with the TS. These reviews provided guidance, direction, and oversight to ensure satisfactory decommissioning of the reactor.

The inspector reviewed the committee’s approval of work package 626-08-“New opening and reenforced bumper spacer” (for the reactor vessel transport skid), the 50.59 change to the FDP increasing the size of bioshield blocks allowed to be moved in containment from 6.5 tons to 15 tons, and audits of the decommissioning and surveillance programs. The inspector determined through these examinations that the safety reviews and audits and associated findings were satisfactory and that the licensee took the appropriate corrective actions in response to these findings.

c. Conclusions

Audits, reviews, and approvals being conducted by the RSC were found to be in accordance with the requirements specified in TS and the RSC charter.

3. Plant Decommissioning

a. Inspection Scope (IPs 39745 and 69001)

The inspector reviewed selected aspects of:

- decommissioning logs and records
- staffing for decommissioning
- selected operational activities

- decommissioning procedures
- RSC minutes
- biological shield removal
- reactor tank down-ending and removal
- reactor tank shipment

b. Observations and Findings

(1) General Decommissioning Activities

The inspector reviewed randomly selected entrance, operations, health physics, and daily containment logs since February 1999. The inspector observed drilling, cutting, sawing and other decommissioning activities being performed during sampling or removal of ducting, piping, biological shield, and other reactor and auxiliary components. Decommissioning activities were carried out following written procedures as required by TS Section 6.3, "Procedures", and FDP Section 2.4.1, "Procedures." Information on operational status of the facility was recorded clearly in log books and/or checklists as required by procedures, providing a record of operational activities and events. During shift turnovers, the oncoming staff was briefed on the status of decommissioning and health physics (HP) activities.

(2) Biological Shield Removal

The reactor tank was surrounded by a "biological shield" made of magnetite bearing concrete. Although this high density concrete provided shielding from the radiation produced in the reactor core, it provided no structural support to the reactor tank. Prior to removing the reactor tank from the containment for disposal, this biological shield needed to be removed.

The shield was removed from the tank using primarily diamond wire cutting techniques. The inspector reviewed the cutting procedures and observed numerous vertical and horizontal sawing operations using the diamond wire cutting techniques. Additionally, the inspector observed the lifting and removal of the first and a number of subsequent concrete shield blocks cut away from the reactor tank. As experience was gained, the licensee appropriately modified its cutting, lifting and removal procedures. In addition, the inspector observed that the operations were performed deliberately, in accordance with the FDP, approved procedures, and with safety as a fundamental interest.

(3) Reactor Tank "down-ending" and Removal

After the surrounding concrete biological shield was removed, the penetrations in the reactor tank were sealed and the tank internals were fixed in place, the tank itself was now ready to be removed.

The tank was first separated from the concrete containment floor by severing its hold-down bolts. Next it was lifted off the floor by use of a heavy lifting crane and pulled on its side and onto a transport skid by cables attached to its base. The tank was then packaged for rail shipment as described in the licensee's Department of Transportation (DOT) exemption request dated December 15, 1999, (DOT exemption DOT-E 12404, issued April 28, 2000, expiring April 30, 2001). The package was then transported to the onsite rail siding to await shipment.

The inspector reviewed the lifting, down-ending, and packaging procedures. The inspector observed the lifting and down-ending of the tank onto its transport skid and found them being performed in a controlled manner and in accordance with the FDP and approved procedures.

(4) Rail shipment for Disposal

The shipped reactor tank and its internals was being shipped to Alaron Corporation, a disposal facility in Wampum, Pennsylvania, just north of Pittsburgh, for processing and final disposal. The shipping package was first transferred to a rail car at the onsite rail siding, then assembled into a special train, and finally transported to the Alaron Corporation site, a distance of approximately 100 miles. The trip entailed one change of engines and crews, as the route covered two individual railroad lines.

The inspector reviewed the DOT exemption and WTR shipping requirements, inspected the shipping package on its rail car, and accompanied the shipment to its destination. During the trip, the inspector observed the Waltz Mill escort personnel performing radiation surveys, inspecting placarding, providing instructions to the railroad crews, and issuing dosimetry. Additionally, the inspector interviewed one railroad crew in regards to their understanding and responsibilities for the shipment.

Based on the observations and interviews, the inspector determined that the radiation surveys, placarding, dosimetry issuance, and training provided to the railroad crews, met the DOT exemption and WTR shipping requirements.

c. Conclusions

Based on the procedures and records reviewed, observations made, and interviews performed during the inspection, the inspector determined that the control and performance of decommissioning activities related to the removal and disposal of the biological shield and reactor tank were acceptable and in accordance with the DOT exemption, FDP, licensee procedures, and TS requirements.

4. Procedures

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of:

- administrative controls
- records for changes and temporary changes
- decommissioning procedures
- procedural implementation
- logs and records
- Waltz Mill Westinghouse Test Reactor Decommissioning Project Control Manual (WMDT) Rev 11, Issued October 2001.

b. Observations and Findings

Over the course of the inspection, the inspector reviewed the following work packages and procedures regarding the cutting and removal of the biological shield, the down-ending and removal of the reactor tank, the packaging and transport of the reactor tank, and applicable HP activities:

WP-1	Project Management
WP-3	Establish Access Through Truck Lock
WP-615	HEPA Filtration/Ventilation Systems
WP-620	Immobilize Reactor Tank Internals
WP-621	Partial Removal of the Bio-Shield
WP-623	Stabilize Core Region
WP-625	Structural Removal
WP-626	Remove and Package Reactor Tank
WMDT-004	Reactor Tank Shipment Transportation, Health and Safety Plan
WM-HP-ADMIN-105	Analytical Laboratory Administrative Procedure
WM-HP-ADMIN-106	Dosimetry Program Requirements
WM-HP-ADMIN-109	Radiation Protection Instrumentation Program
WM-HP-ADMIN-112	Survey and Surveillance Program Requirements
WM-HP-ADMIN-118	Radioactive Material Management Program Requirements
WM-HP-ALARA-134	Request, Authorization, and Issue of Radiation Work Permits
WM-HP-ENVIR-22	Environmental Radiation Surveillance
WM-HP-ENVIR-47	Stack Monitoring
WM-HP-INST-7	Calibration of Laboratory Counters
WM-HP-INST-11	Calibration of Continuous Air Monitors
WM-HP-INST-12	Calibration of Count Rate Meters
WM-HP-INST-17	Calibration of Portable Radiation Survey Meters
WM-HP-INST-470	Response Checking Instruments
WM-HP-41	Shipping of Byproduct, Source, and Special Nuclear Materials
WM-HP-REM-168	Visitor Dosimeter Issuance and Usage
WM-HP-REM-324	TLD Issue Procedure
WM-HP-SURV-220	Radiation Surveys

WM-HP-SURV-227	Surveying Material for Unconditional Release
WM-HP-SURV-230	Routine Surveillances
WM-HP-SURV-254	Air Sampling Using Portable Air Samplers

The inspector confirmed that written HP and decommissioning procedures were available for those tasks and items required by TS Section 6.3. The procedures were routinely updated while minor modifications to the procedures were made as temporary changes. Temporary changes to procedures could be made by Level 3 management and higher; however, those affecting radiation safety must also be reviewed by the RSC within 45 days. Substantial changes were effective only after approval by appropriate management or the RSC.

After review of the 1999 and 2000 training records and interviews with staff, the inspector determined that the training of personnel on procedures was adequate. During the inspector's tours of the facility, it was observed that personnel performing radiation surveys, conducting instrument checks, issuing dosimetry, performing cutting, drilling, sawing, lifting, removal, and other decommissioning activities were doing so in accordance with applicable procedures.

c. Conclusions

Based on the procedures and records reviewed and observations of staff during the inspection, the inspector determined that the procedural control and implementation program was being acceptably implemented.

5. Maintenance and Surveillance

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of:

- maintenance procedures
- equipment maintenance records
- surveillance and calibration procedures
- surveillance, calibration, and test data sheets and records
- reactor decommissioning, periodic checks, tests, and verifications were observed
- facility design and FDP changes and records
- facility configuration
- WMDT
- Procedure WM-DT-6.2, "Decommissioning Licensing evaluation"

b. Observations and Findings

(1) General Maintenance

During decommissioning, general maintenance was focused on the support services and equipment and not on any reactor systems. Those

reactor systems still required were covered under the surveillance program. The inspector interviewed logistics staff and observed minor maintenance performed on lighting, water and air service, pumps, electrical and other support equipment. Burnt out bulbs were replaced with new ones, gaskets and filters were replaced, lubricant was topped off, and standard industrial maintenance was performed on equipment. Based on the inspector's interviews and observations, general maintenance was performed as expected on an industrial site.

(2) Surveillance

The WMDT, procedure WM-DT-4.7, "Surveillance Schedule" was used to track surveillance checks, and required system/component inspections. The procedure was found to provide adequate control over the TS required tests and surveillance checks during decommissioning.

The inspector reviewed records of all TS Section 3 and Section 4 required limiting conditions for operation (LCO) and surveillance verifications performed since February 1999. Additionally, the inspector observed: 1) TS Section 3.1.3.2 required ventilation LCO verifications performed prior to restricted operations, 2) TS Section 3.3.3.2 required monitoring system LCO verifications, and 3) TS Section 4.4.3.2 required air particulate monitor surveillance. The results of the surveillances observed or reviewed were within prescribed TS limits and procedure parameters and in close agreement with the previous surveillance results.

(3) Change Control

Reactor, TS, or FDP related 50.59 changes require review by the RSC in accordance with TS Section 6.2.3, "Review Requirements" and FDP Section 1.4, "Administration of the Decommissioning Plan." The reviews are controlled by procedure WM-DT-6.2, "Decommissioning Licensing Evaluation."

The inspector reviewed the RSC approved change packages for increasing the size of the biological shield blocks which could be moved in containment and for modifying the method used to remove the reactor tank from containment and ship it. From these reviews, the inspector determined that change evaluations were technically complete and adequately documented. Additionally, the inspector concluded that RSC 10 CFR 50.59 reviews and approvals were focused on safety, and met licensee program requirements.

c. Conclusions

The licensee's program for surveillance and LCO verification satisfied TS and FDP requirements. The licensee's maintenance and design change programs were in place and were being implemented as required by licensee procedures.

6. Radiation Protection

a. Inspection Scope (IPs 83743 and 69001)

The inspector reviewed selected aspects of the radiation protection program (RPP):

- The Radiation Protection Manual (RPM)
- As Low As Reasonably Achievable (ALARA) reviews
- Radiation Protection Training
- radiological signs and posting
- facility and equipment during tours
- routine surveys and monitoring
- survey and monitoring procedures
- dosimetry records
- maintenance and calibration of radiation monitoring equipment
- periodic checks, quality control, and test source certification records
- event/incident records

b. Observations and Findings

(1) Radiation Protection Program

Although the RPM and individual procedures had been revised and some added, the RPP had not structurally changed since the last inspection. The licensee reviewed the RPP at least annually in accordance with 10 CFR 20.1101(c). This review and oversight was provided by the RSC as required by TS Section 6.2.4.

The inspector's review of procedure change records, RPM revisions, and radiation work permits (RWP), confirmed that the RSO specifically reviewed and approved RPP changes, experiments, and radiation protection related events/conditions as required by TS 6.1.2, FDP Section 3.2 and the RPP.

(2) Radiation Protection Postings

The inspector observed that caution signs, postings and controls to radiation, high radiation, and contaminated areas at the WTR were acceptable for the hazards involved and were being implemented as required by 10 CFR Part 20, Subpart J. The inspector observed licensee and contractor personnel and verified that they complied with the indicated precautions for access to such areas. The inspector confirmed that current copies of NRC Form-3 and notices to workers were posted in appropriate areas in the facility as required by 10 CFR Part 19.

(3) Radiation Protection Surveys

The inspector audited the daily, weekly, monthly, quarterly, and other periodic contamination and radiation surveys, including airborne activity sampling. They were performed and documented as required by TS Section 6.3, "Radiation Safety", FDP Section 3.2.1 and WTR survey procedures. HP surveys required for special decommissioning activities, such as truck door openings, RWPs, etc. were also performed and documented as required. Results were evaluated and corrective actions taken and documented when readings/results exceeded set action levels.

The inspector's review of the survey records since November 1999 confirmed that contamination, radiation, and airborne surveys were being performed as required by the RPM and individual procedures. Results were reviewed and corrective action taken when results exceeded facility action levels. Resurveys were performed to ensure corrective actions were effective.

(4) Dosimetry

The inspector confirmed that dosimetry was being issued to staff, contractors, and visitors as outlined in licensee procedures. The licensee's dosimetry issuing criteria specifies that dosimetry be issued to individuals who might receive a dose equivalent exceeding 10 percent of the annual limits specified in 10 CFR 20.1201(a). This criteria meets the requirements of 10 CFR 20.1502 for individual monitoring. During the inspection the inspector observed that visitors, workers, and staff wore their dosimetry, including extremity dosimeters, as required.

The licensee used a National Voluntary Laboratory Accreditation Program-accredited vendor to process personnel thermoluminescent dosimetry. Dosimetry results were reviewed by the RSO and doses above the facility's ALARA limits were investigated or referred to the RSC as required. The inspector's review of 12 individual radiological exposure records, each covering the period from February 1999, to April 2000, verified that occupational doses were within 10 CFR Part 20 limitations.

(5) Radiation Monitoring Equipment

The calibration and periodic checks of the portable survey meters, radiation monitoring, air sampling, and counting lab instruments were performed by facility staff or by certified contractors. The inspector confirmed that the licensee's calibration procedures and annual, quarterly, semiannual and monthly calibration, test, and check frequencies satisfied TS Section 4.3.3, FDP Section 3.2.3, and 10 CFR 20.1501(b) requirements, and the American National Standards

Institute (ANSI) N323, “Radiation Protection Instrumentation Test and Calibration” or the instrument’s manufacturers' recommendations. The inspector verified that the calibration and check sources used were traceable to the National Institute of Standards and Technology and that the sources’ geometry and energies matched those used in actual detection/analyses.

The inspector reviewed the facility calibration list for 1999 and 2000 and confirmed that the calibrations for the radiation monitoring and counting lab equipment in use had been performed. The inspector verified the calibration of the lab multichannel analyzer, a containment continuous air monitor, a ventilation effluent monitor, two count rate meters, and one portable ion chamber. All instruments checked had current calibrations appropriate for the types and energies of radiation they were used to detect and/or measure.

(6) Respiratory Protection

FDP Section 3.2.5 describes how the WTR respiratory protection will be established. It will meet 10 CFR Part 20, Subpart H and 29 CFR 1910.134 requirements and use ANSI Z88.2, NRC Regulatory Guide 8.15, and NUREG-0041 for guidance.

During the time covered by the inspection, the licensee had not implemented the respiratory protection program under 10 CFR Part 20, Subpart H. The licensee determined that, based on calculations and air sampling results, respiratory protection was not required to limit intake of radioactive material. The inspector reviewed the licensee’s sampling and calculation results, interviewed staff, and observed ongoing air sampling during tours. The inspector confirmed the licensee’s conclusion that respiratory protection was not required to limit intake of radioactive material and determined that the continuing air sampling program was adequate to evaluate the need for 10 CFR Part 20, Subpart H respiratory protection.

Although respiratory protection was not used to limit intake of radioactive material, it was used during welding, cutting, drilling, and other decommissioning activities. The licensee provided respiratory protection based on the specific work being performed, air sampling results, calculations, or worker request as appropriate. Individual breathing zone and general area air sampling were performed for lead and silica, while airborne dust was monitored using a MIE DataRam dust monitor. All results, during the inspection, were less than 5% of the occupational limits. The inspector reviewed the licensee’s and contractors’ program, procedures, and training for 29 CFR 1910.134 related respiratory protection, air sampling and calculation results, observed ongoing air sampling during tours, and interviewed staff. Workers using respiratory protection were knowledgeable of its maintenance and use. All

respirators checked were National Institute for Occupational Safety and Health approved and within maintenance dates. Based on this review, the inspector determined that the respiratory protection program implemented by the licensee satisfied 29 CFR 1910.134 requirements and that the continuing air sampling program was adequate to evaluate the need for respiratory protection.

c. Conclusions

The inspector determined that, because: 1) surveys were being completed and documented as required by 10 CFR 20.1501(a), Technical Specifications, and licensee procedures, 2) postings met regulatory requirements, 3) the personnel dosimetry program was acceptably implemented and doses were in conformance with licensee and 10 CFR Part 20 limits, 4) portable survey meters, radiation monitoring, and counting lab instruments were being maintained and calibrated as required, and 5) the evaluation and administration of the respiratory programs were adequately being performed, the RPP being implemented by the licensee satisfied regulatory requirements.

7. Effluent Monitoring

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of:

- release records
- counting and analysis program
- maintenance and calibration records
- annual and periodic reports
- procedures

b. Observations and Findings

The inspector audited the gaseous releases for 1999 and 2000. The results were calculated using the Environmental Protection Agency COMPLY code. The inspector's review of these releases confirmed that they met the annual dose constraint specified by 10 CFR 20.1101(d), 10 CFR Part 20, Appendix B concentrations, and TS Section 3.7.2 discharge limits.

The inspector verified that radioactive liquid releases were below 10 CFR Part 20, Appendix B limits. Liquid release records since February 1999 were reviewed through May 2000, confirming that these releases met 10 CFR 20.2003 and 10 CFR Part 20, Appendix B limits.

c. Conclusions

Effluent monitoring satisfied license and regulatory requirements and releases were within the specified regulatory and TS limits.

8. Transportation of Radioactive Materials

a. Inspection Scope (IP 86740)

The inspector reviewed selected aspects of:

- radioactive materials shipping procedures
- radioactive materials transportation and transfer records for 1999-2000
- interviewed staff
- observed package preparations and transport of the reactor tank

b. Observations and Findings

The requirements of 10 CFR 30.41, "Transfer of Byproduct Material", obligates the shipper, prior to transferring byproduct material to another entity, to verify that the transferee is authorized under 10 CFR 30.41(b) (1)-(7) to receive byproduct material and that their license authorizes the receipt of the type, form, and quantity of byproduct material being transferred.

The inspector reviewed ten shipments in 1999 and 2000 and confirmed compliance with the requirements of 10 CFR 30.41(d) (1)-(5).

The WTR, in addition to NRC regulations, is required by 10 CFR Part 71, "Packaging and Transportation of Radioactive Material", to comply with the applicable requirements of the DOT regulations in 49 CFR Parts 170 through 189.

Shipping paper documentation required by 49 CFR must include the proper shipping name and hazard class, the words "Radioactive Material," the applicable identification number (UNXXXX), and the name, physical/chemical form/description, and activity in SI units of each nuclide. Additionally, the category of label applied to each package and the TI assigned to each Yellow-II or III package must be included. If tendered to a common carrier an appropriate signed shipper's certificate is required and if by aircraft additional statements as to acceptability are also needed.

The inspector confirmed by review of shipping records since February 1999, that the licensee properly prepared the shipping paper documentation. Emergency response information and monitored telephone contacts were as required.

The 49 CFR Part 173 requires that each shipper of a type 7A package maintain on file, a written document of the test and engineering evaluation or other data showing the package complies with the specification. Additionally, if the shipper makes any changes to the packaging, a supplemental evaluation must be performed and documented. The documentation must address that the change to the packaging is in conformance with the specifications.

Packages used at the WTR are normally purchased from a vendor or provided by the contractor involved with the material being shipped. The inspector confirmed that the manufacturers' testing and evaluation documentation along with their packaging instructions were on file.

c. Conclusions

Based on the records reviewed, the inspector found the transportation of byproduct material by the licensee satisfied the applicable NRC and DOT regulations.

9. Emergency Preparedness

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of:

- the emergency plan
- implementing procedures
- emergency response facilities, supplies, equipment and instrumentation training records
- offsite support
- emergency drills and exercises

b. Observations and Findings

Although a NRC approved emergency plan was not required, the Waltz Mill site maintains it own fire brigade and separate medical clinic. Training and tours of the facility were provided yearly to the staff. Interviews with staff and review of training records indicate that they are knowledgeable of the hazards involved in responding to emergencies at the reactor. Emergency call lists at the guard station were available and accurate.

c. Conclusions

Emergency response staffing was sufficient for the radiological hazards involved in a fire or injury involving the reactor facility.

10. Security

a. Inspection Scope (IP 81401)

The inspector reviewed selected aspects of:

- the access control plans
- security systems, equipment and instrumentations
- implementation of the access control plan
- audits
- general site security

b. Observations and Findings

The Waltz Mill site is an industrial complex and as such access to the facility is controlled by use of fences and barriers, gates and secured access points, and identification and badging procedures. The inspector toured the Waltz Mill site and confirmed that the physical protection systems (barriers and alarms), equipment, and instrumentation were as required by procedures.

Access to the reactor was described in FDP Section 2.2.2.1 and performed in accordance with WMDT Section 1.6, "Access Control Plans." During the inspection, the inspector reviewed the access procedures, observed personnel entries into the reactor containment, and interviewed staff. Additionally, the inspector himself made numerous entries into containment through both the east air lock and the north truck lock. Through the reviews, observations, interviews, and entries into the reactor containment, the inspector confirmed that access was controlled as required.

c. Conclusions

Based on the observations, the inspector found the physical protection features of the Waltz Mill site and WTR, the equipment, procedures and access control, satisfied site procedures and the access control plan.

11. Training

a. Inspection Scope (IP 69001)

The inspector reviewed selected aspects of:

- radiation protection training records and rosters
- radiation protection training procedures
- FDP

b. Observations and Findings

FDP Section 2.6 outlines the training requirements for individuals who require access to the work or radiological areas of the site. The training consisted of two parts. The first part being general site training to provide orientation and meet the requirements of 10 CFR Part 19, and the second being radiation worker training (RWT) commensurate with the potential hazards to which the individual could be exposed based on their specific duties and responsibilities. The training records maintained by the licensee include the trainee's name, date of training, type of training, test results, authorizations for protective equipment use, and instructor's name.

The inspector's reviews of the training records since February 1999 confirmed that 10 CFR Part 19 and specific training appropriate to individual status and work

requirements had been provided to staff and contractors. The inspector confirmed by interviewing and observing individuals performing maintenance and decommissioning activities, calibrations, and surveys, that the training had been effective. Additionally, the inspector verified the training of two contractors and one Westinghouse employee. All training records reviewed were current.

c. Conclusions

The 10 CFR Part 19 and FDP required RWT training were performed in accordance with established procedures.

12. Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at the conclusion of each inspection period. (i.e., October 28, 1999, and January 20, April 21, and May 16, 2000). The licensee acknowledged the findings presented and did not identify any of the material provided to or reviewed by the inspector during the inspection as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Banning	GTS Duratek, HP Manager
*B. Bowman	Viacom (CBS) Project Director
*R. Cline	Manager, Industrial Hygiene, Safety & Environmental Compliance
E. Hume	GTS Duratek, HP Technician
*W. Lavallee	Westinghouse, Project Manager
*A. J. Nardi	Westinghouse License Administrator
*D. Reese	Morrison-Knudsen, Operations Manager
D. Robin	Morrison-Knudsen, General Superintendent
*R. Sisk	Westinghouse, Licensing Engineer
J. Smith	GTS Duratek, HP Technician
S. Thompson	Technical Director, Antech Ltd.
*W. D. Vogel	Waltz Mill Radiation Safety Officer

(*Attended Exit Meeting)

INSPECTION PROCEDURE (IP) USED

IP39745	Class I Organization and Operations and Maintenance Activities
IP 40745	Class I Review -Audit & Design Change
IP 69001	Class II Non-Power Reactors
IP 81401	Plans, Procedures, and Reviews
IP 83743	Class I Radiation Protection
IP 86740	Transportation Activities

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Closed

NONE

DISCUSSED

NONE

PARTIAL LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
DOT	Department of Transportation
FDP	Final Decommissioning Plan
HP	Health Physics
LCO	Limiting Conditions for Operation
RSC	Radiation Safety Committee
WTR	Westinghouse Test Reactor
NRC	Nuclear Regulatory Commission
RPM	The Radiation Protection Manual
RPP	Radiation Protection Program
RWP	Radiation Work Permits
RWT	Radiation Worker Training
TS	Technical Specifications
WMDT	Waltz Mill Westinghouse Test Reactor Decommissioning Project Control Manual