U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-201/81-04

Docket No. 50-201

License No. CSF-1 Priority 1 Category RP

Licensee: Nuclear Fuel Services, Incorporated
600 Executive Boulevard
Rockville, Maryland 20352

Facility Name: West Valley Reprocessing Plant

Inspection at: West Valley, New York

Inspection conducted: July 27-31, 1981

Inspectors: J. Roth — 9/2/81
J. Roth, Project Inspector — date signed

Accompanied by: G. F. Sanborn, Field Public Affairs Officer — date signed

_____ — date signed

Approved by: J. Roth for — 9/2/81
H. W. Crocker, Chief, Fuel Facility Projects Section, PB#2, Division of Resident and Project Inspection — date signed

Inspection Summary:

Inspection on July 27-31, 1981 (Report No. 50-201/81-04)
Areas Inspected: Routine unannounced inspection by a region-based inspector of the licensed program including: 10 CFR Part 21,; organization facility changes and modifications; internal review and audits; safety committees; training; requalification training; housekeeping; calibrations; surveillance testing; maintenance,; review of operations; criticality safety; nonroutine events; quarterly report review; followup on noncompliance items; and, licensee action on IE Circulars. The inspection was initiated on the day shift and involved 34 inspector-hours onsite by one NRC region-based inspector.
Results: No items of noncompliance were identified.

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

J. P. Duckworth, General Manager
R. T. Smokowski, Health and Safety Manager
C. W. Alday, Operations Manager
G. E. Riethmiller, Plant Assistance Supervisor
C. E. Seitter, Quality Assurance Supervisor

The inspector also contacted 11 other licensee employees during the course of this inspection.

*denotes those present at the exit interview.

2. Licensee Action on Previously Identified Enforcement Items

(Closed) Inspector Follow Item (201/81-01-01) Definition of the term - safety related - in connection with its use in the facility QA Manual. The licensee reviewed the definition of the term safety-related as presented in Section 2.D of the facility QA Manual. The decision was made to retain the current definition of the term as long as the facility remains in a shutdown mode of operation. The definition of the term will be reviewed for applicability if the facility restarts spent fuel processing operations.

(Closed) Violation (201/81-01-02) Failure to properly complete the Conditional Release forms prior to shipment of the NFS-4A and 4B casks as type A containers on December 29-30, 1980. The inspector verified that the licensee had discontinued the use of the Conditional Release form. Instead, a case-by-case review of each shipment will be made by the engineer-in-charge of transportation and the Health and Safety Manager to assure full compliance with federal regulations. It was noted that no shipments of radioactive materials were made from the facility since the last inspection (50-201/81-01). Corrective actions have been completed on this item of noncompliance.

(Closed) Inspector Follow Item (201/81-01-03) The licensee is to review and update the transportation procedures contained in the Health and Safety Procedures Manual. The inspector verified that the licensee had discontinued using the obsolete shipping procedures described in the facility Health and Safety Procedures Manual. As described above, the licensee has instituted a case-by-case review of each shipment by the engineer-in-charge of transportation and the Health and Safety Manager to assure that all federal regulations concerned with the shipment of radioactive materials have been followed. Actions have been completed on this item.

(Closed) Inspector Follow Item (201/81-02-01) Review licensee's annual internal security audit for 1980. Subsequent to this inspection, the licensee located and submitted a copy of the 1980 and 1981 annual security

audit reports to the Region I office for review. The 1980 audit was conducted on October 8-9, 1980 and the 1981 audit was conducted on July 28, 1981. The reports were reviewed by a Region Physical Security inspector and no items of noncompliance were identified.

3. Organization

The inspector determined through discussions with licensee personnel and review of licensee records that there had been no changes in the facility organization or personnel organizational assignments since the last inspection (50-201/81-01).

No items of noncompliance were identified.

4. Review of Operations

The inspector examined all areas of the site to observe operators and activities in progress; to inspect the nuclear safety aspects of the facility; and to check the general state of cleanliness, housekeeping and adherence to fire protection rules.

a. Examination of Outdoor Areas

The inspector noted that a radiation area sign on the south side of the lagoon system, between lagoons 1 and 2, had become weathered and needed to be replaced. It was also noted that the lower strand of barrier rope on the north side of the hardstand area was fraying and needed to be replaced. Both of these items were corrected by the licensee prior to the end of this inspection.

No items of noncompliance were identified.

b. Examination of the Fuel Receiving and Storage (FRS) Area

The inspector observed that there was a hole (approximately 4 inches diameter) in the outside surface of the cinder block wall on the west side of the FRS. The hole did not extend all the way through the wall. According to licensee representatives, this hole was created in the wall during testing of the FRS walls for security purposes. This hole was repaired prior to the end of this inspection.

No items of noncompliance were identified.

c. Utility Room

The inspector noted that pressure gage 31PG31 on the South Boiler was not of the same pressure range as the corresponding gage on the North Boiler. Gage 31PG31 was operable over the range of 0 to 30 inches of

water while the corresponding gage was operable over a 0 to 60 inch range. According to licensee representatives, the correct gage should cover the range 0 to 60 inches of water. However, because of a malfunction of the original 0 to 60 inch gage, a 0 to 30 inch gage was temporarily installed in the system until a proper replacement gage could be obtained. The inspector verified that the temporary gage had been properly calibrated prior to installation and that the operating history of the boiler indicated that pressures in excess of 30 inches had never been encountered.

No items of noncompliance were identified.

d. Log Books

The inspector examined log books maintained in the waste tank farm shelter (WTF), the low level waste treatment facility (LLWT) and the shift supervisor's office for the time period January 1, 1981 through July 27, 1981. The WTF and LLWT log books contained entries indicating the time of day, date, shift and individual taking instrument readings. These logs also indicated corrective actions taken when nonstandard conditions were observed in the areas (i.e., thawing of frozen pipes, etc.). The shift supervisor's log included instructions to subsequent shifts, as necessary, and a running commentary of conditions met during the shift.

No items of noncompliance were identified.

e. Operating Procedures

The inspector compared the following operating procedures located at the appropriate work station with the procedures contained in the file located in the control room and the Operations Manager's office.

(1) Low Level (Waste Treatment Facility (LLWT)

SOP-02-01, Revision 11, dated May 1981 "LLWT Cold Chemical Makeup"

SOP-02-02, Revision 6, dated September 1980 "Ion Exchange Bed Operation"

SOP-02-03, Revision 8, dated May 1981 "Process Control Procedures for LLWT Plant"

SOP-02-4, Revision 5, dated April 1981 "Operation of the Anthracite Filter"

SOP-02-5, Revision 9, dated September 1980 "Centrifuge and Drumming Station Operations"

SOP-02-6, Revision 9, dated September 1980 "Operation of Flocculator-Clarifier"

(2) Extraction Sampling Aisle (XSA)

SOP-9-2, Revision 8, dated December 1980 "Solid Radioactive Waste Disposal"

SOP-15-4, Revision 12, dated September 1980 " 'B' and 'C' type sampl. operations."

The inspector determined that the procedures located at the work station were of the same revision and date as those located in the file located in the control room as required by Technical Specification 7.1.3. The inspector also examined other procedures, at random, being maintained in the control room and determined that these procedures were also current revisions as required by Technical Specification 7.1.3.

The inspector also reviewed the procedures specified in SOP-02-01 with an operator and determined that the operator had a good knowledge of the safety requirements specified in this SOP. It was noted that the SOP did not accurately describe the equipment and procedures for the transfer of concentrated sulfuric acid from the receiving carboy into process tanks. This procedure was being modified prior to this inspection and the modification was approved by the plant Safety Committee prior to the end of this inspection.

No items of noncompliance were identified.

5. Nuclear Criticality Safety

a. Laboratory Logs

The laboratories required to have a log of the special nuclear material present were examined. Each laboratory had the log of material present conspicuously posted. Each log was updated at least once each week as required by procedures.

No items of noncompliance were identified.

b. Radiation Monitors

Radiation monitors located at selected locations throughout the facility were examined and appeared to be operating properly. The remote readout meters for each monitor are located in the facility control room. All monitors were set to alarm at about 5 mR/hr. All remote meters located in the control room appeared to be operating properly.

The inspector examined records for the calibration of the criticality monitor over the time period December 26, 1978 through June 30, 1981. It was determined that the criticality monitors had been calibrated quarterly and after repair as required by license conditions.

No items of noncompliance were identified.

6. Facility Changes and Modifications

The inspector determined through discussions with licensee representatives and review of licensee records that no significant facility changes and/or modifications had taken place since the last inspection.

7. Safety Committee

The inspector determined that the current membership of the Plant Safety Committee was as required by Technical Specification 7.1.1.6. The inspector examined the minutes of 7 Safety Committee meetings held from January 1, 1981 through July 28, 1981. The committee met at least at the required frequency and the quorum requirements of three of the four voting members or their alternates to be present were met in each case. According to the minutes, the topics discussed at these meetings included: review and approval of standard operating procedures, review of special procedures associated with the pump out of the low level waste burial trenches and restart of the Low Level Waste Treatment facility.

No items of noncompliance were identified.

8. Internal Review and Audit

The licensee conducts internal audits under its quality assurance program. The inspector examined records of the audits conducted from January 1, 1981 through July 29, 1981. These audits cover technical specifications 10 CFR 19, 10 CFR 20, 10 CFR 71, SNM-984, Security and Special Nuclear Material Control requirements. The records showed that the following number of audits were conducted during the time period reviewed.

Number of Audits Conducted

Frequency	Audits Performed	Annual Requirement
Monthly	274	492
Quarterly	131	240
Semi-Annual	1	2
Annual	26	43
Total	432	777

Review of licensee records indicated that all of the audits required to date had been performed. No problem areas were identified during the conduct of any of these audits performed by the Quality Assurance Supervisor.

No items of noncompliance were identified.

9. Nonroutine Events

Barn Fire

At approximately 6:30 a.m. on June 21, 1981 a barn, located on the licensee controlled area about 2 miles due west of the facility, burned during an electrical storm. No radioactive material or any other licensee property was involved in the fire. The barn was damaged beyond repair. The local fire departments were notified by the licensee when the fire was initially discovered.

The inspector became aware of this incident during a review of licensee records. According to licensee representatives, Region I was not notified of this incident because it did not involve radioactive material or licensee property other than the barn. Even though this was not a reportable event the inspector requested that the licensee inform the Region I office of incidents of this type for information only.

No items of noncompliance were identified.

10. Licensee Action on IE Circulars

IE Circular 80-20

The inspector determined through discussions with licensee representatives and review of licensee records that IE Circular 80-20 dated August 21, 1980 "Changes in Safe-Slab Tank Dimensions" had been reviewed for applicability. The licensee has 4 slab-type tanks installed in the processing lines (5D-1, 5D-4, 5D-5A and 5D-5B). However, none of these tanks have been in use since operation of the facility ceased in 1972. The structural design of the slab tanks was examined and it was determined that, during use, there was no available source of pressure which would cause a permanent deformation or uncontrolled expansion of the tanks. A change in the physical dimensions of the tanks will be determined by recalibration with water prior to re-use.

No items of noncompliance were identified.

11. 10 CFR Part 21

The inspector reviewed the procedure "10 CFR Part 21.21 Procedures" dated December 27, 1977 and revised on January 3 and January 27, 1978. These

documents established and defined the criteria used for the evaluation of substantial safety hazards, specified the evaluation and reporting procedures required for the prompt notification of NFS management, and specified the required management reporting sequence. A memo dated January 20, 1978 established an internal facility evaluation committee as required by 10 CFR 21.21. This committee consists of: The General Manager as Chairman, the Operations Manager, the Technical Services Manager, the Health and Safety Manager, the Security Manager, and the Quality Assurance Supervisor. Evaluations are to be performed by at least two of the above with expertise in the area of concern. This evaluation is then presented to the full committee for consideration. In addition, the inspector observed that the notices specified by 10 CFR 21.6 had been posted at facility entrances as required.

No items of noncompliance were identified.

12. Housekeeping

The licensee has established procedures to ensure that good housekeeping is maintained on the site. These procedures call for quarterly housekeeping and safety inspections to be performed by the Health and Safety Industrial Safety Specialist. The inspection results are documented on a comprehensive checklist and on a summary page; this report is sent to the Health and Safety Manager. Cognizant management is made aware of any items requiring corrective action. A report highlighting problem areas is sent to the Plant Manager by the Manager of Health and Safety. After about three weeks, the Industrial Safety Specialist performs a follow-up inspection of the items which require corrective action. The inspector examined the housekeeping reports for the fourth quarter of 1980 and the first two quarters of 1981. The reports from the Manager, Health and Safety to the General Manager addressed the problem areas identified during the inspections and the corrective actions taken.

No items of noncompliance were identified.

13. Quarterly Reports

Quarterly Report No. 60 for the period January 1, 1981 to March 31, 1981 was examined by the inspector. It was determined that all information required to be reported by the facility Technical Specficiations had been reported and corresponded to information documented in facility records.

No items of noncompliance were identified.

14. Instrument and Equipment Calibration

The inspector reviewed and evaluated the adequacy of schedules established by the licensee for calibrating equipment and instruments associated with systems important to safety.

a. Required Calibrations

The inspector reviewed the records for the calibration of radiation monitors and determined, as discussed previously in paragraph 5b, that the radiation monitors used throughout the facility have been calibrated on a quarterly frequency.

No items of noncompliance were identified.

b. Other Calibrations

The inspector examined records of the calibration of pieces of equipment associated with the systems important to safety. The equipment records examined, and the calibration frequency are indicated below. Specific equipment examined by the inspector is indicated by a notation of the last date calibrated.

Instrument	Description	Frequency	Last Date Calibrated
8-LAH-3	8D6 KOdrum High Level	Semi-annual	7/22/81
8-LAH-7	8D2 Pan High Pressure	Semi-annual	7/22/81
8-LAH-9	8D3 Tank High Level	Semi-annual	7/22/81
8-LAH-10	8D3 Sump High Level	Semi-annual	7/22/81
8-LAH-11	8D4 Tank High Level	Semi-annual	7/22/81
8-LAH-12	8C1 Off Gas Scrubber High Level	Semi-annual	7/22/81
8-LAH-19	8D1 Vault High Level	Semi-annual	7/22/81
8-LAH-20	8D2 Vault High Level	Semi-annual	7/22/81
8-LAH-13	8C1 Off Gas Scrubber Low Level	Semi-annual	7/22/81

Through discussions with licensee representatives, the inspector determined that rotameters/flowmeters are not tested or calibrated to assure that the flow rates are acceptable. During the exit interview the licensee indicated that this observation will be reviewed and considered especially with respect to those flowmeters which are used to measure effluent flow.

No items of noncompliance were identified.

15. Surveillance Testing - Technical Specifications

The inspector reviewed licensee records and held discussions with licensee representatives concerning selected Technical Specifications.

a. Technical Specification 4.12.1 "Caustic Concentration in Carbon Steel Waste Storage Tanks"

Technical Specification 4.12.1 requires that excess caustic in the carbon steel high level waste storage tanks shall be present in concentration of at least 1% after the volume of introduced waste exceeds 100,000 gallons. The excess caustic is to be based on the stoichiometric amount required to neutralize acidic waste. Based on samples taken during the 4th quarter of 1979, the measured value of excess caustic in this tank was determined to be approximately 3.7%. The value based on records of waste additions to the tank is about 2.3%. Each of these values is in excess of the required minimum 1%. The inspector verified through a review of licensee records that all additions of waste to the high level waste storage tanks during 1980 through June 30, 1981 contained excess caustic greater than the required minimum value of 1%.

No items of noncompliance were identified.

b. Technical Specification 4.14.1 - Exhaust Filter Differential Pressure

The inspector verified through examination of instrument recorder charts that the maximum pressure differential of 8.5 inches of water was not being exceeded on the exhaust filters installed in the facility ventilation systems.

No items of noncompliance were identified.

c. Technical Specification 5.4 Spare Waste Storage Capacity

The inspector verified that the facility had the required spare waste tanks available for use and that the equipment required for transfer of solutions from the current storage tanks to the spare tanks had either been installed or was available for use in case of emergency.

No items of noncompliance were identified.

d. Technical Specification 6.2.1, Sump Alarms and Eductors

Licensee records indicated that the sump alarms and transfer eductors in the Products Purification Cell (PPC), Extraction Cell No. 2 (XC-2) and Extraction Cell No. 3 (XC-3) had been checked for operability at least once each month for the time period April 30, 1981 through July 21, 1981.

No items of noncompliance were identified.

e. Technical Specification 6.3.1, Waste Storage Tank Pan Instrumentation

Licensee records for the time period April 16, 1981 through July 7, 1981, of the periodic verification of the operability of instrumentation for the presence of liquid in the 8D-1 and 8D-2 tank pans were examined. The records showed that the licensee verified the operation of the liquid level indicating instrumentation and the level alarm instrumentation for the pans and vaults of the 8D-1 and 8D-2 tanks at least once each month. The operability of the level indicating and level alarm instruments for the 8D-3 and 8D-4 vault were also checked at least once each month during the same time period.

No items of noncompliance were identified.

f. Technical Specification 6.4, Emergency Utility Equipment

According to licensee records, the emergency generator (30T-1), the air compressor (31K-1) and the cooling water pump 32G-4B had been operated at least once every three months to determine the automatic start capability and performance under load. Licensee records indicated that these tests had been conducted as required by Technical Specification 6.4.1 during the time period April 16, 1980 through July 7, 1981.

According to licensee records, the boiler feed pumps (31G-2A and 31G-2B), the boiler draft fans (31K-2 and 31K-2A) and the plant water pumps (32G-2A and 32G-2B) had been operated at least once each three months to determine performance under load. Licensee records indicated that these tests had been conducted as required by Technical Specification 6.4.2 during the time period August 11, 1980 through June 12, 1981.

Licensee records examined by the inspector for the time period April 16, 1981 through July 7, 1981, indicated that the quantity of diesel fuel in oil storage tank (31D-2) had been checked at least weekly to verify that at least 8,000 gallons of diesel fuel was being maintained in storage as required by Technical Specification 6.4.3.

Licensee records examined by the inspector for the time period April 1, 1980 through July 2, 1981, indicated that the auxiliary HEU blower (15F-21) and the main plant spare blower (15K-10A) had been operated at least once every 3 months to determine automatic start capability and performance under load as required by Technical Specification 6.4.4.

No items of noncompliance were identified.

16. Maintenance

The licensee has established a number of tickle card file systems in the area of maintenance in order to maintain closer control of important pieces of equipment. One card record system has been established to include every major piece of equipment in the plant. Whenever work is performed on this equipment, the pertinent information is recorded on the card for that piece of equipment. The licensee uses a tickle card system in the preventative maintenance (PM) program. The licensee has individual cards for the equipment requiring PM. Information on the card includes: the schedule of the work; the work to be performed; the date when the work was performed; and any pertinent information for the maintenance record. After the work is complete and the data recorded, the card is placed in a chronological file for the future PM work. The licensee has also established a similar tickle card system to assure that pieces of equipment such as recorders, controllers, etc. have been calibrated on an established schedule. This system also works in the same manner as the preventative maintenance tickle card system.

The maintenance group has established a schedule for the lubrication of plant equipment. The equipment is inspected for proper operation at the time of lubrication. The licensee maintains a master book in which a record of the lubrication is kept. The licensee currently has 10 lubrication schedules in use. The areas covered by these are: Off Gas Aisle and Chem End; Ventilation Exhaust Cell; Utility Room; Fuel Receiving and Storage; Yard; General-Zone 2; General-Valves and Roof Exhausters; Vehicles; Low Level Waste Treatment Facility; and General-Items from Shutdown Schedule. Lubrication is accomplished weekly, monthly, quarterly, semi-annually or annually according to the schedule maintained in the master book. On the first of each month the assigned maintenance personnel obtains a schedule of required lubrication for that month from the maintenance foreman, conducts the required lubrication and/or checks during that month and returns that month's schedule to the maintenance foreman who enters the dates into the master list. The inspector examined copies of completed sheets and compared them to entries in the master file.

The licensee uses special work permits for maintenance work in zone 4 contamination areas or high radiation areas. Health and Safety administers the special work permit system. Personnel performing work under the special work permit read and sign the permit. The permit covers: location of work; date; description of work; welding and burning permit; lockout tag; protective clothing requirements; monitoring requirements; radioactivity concentration in air; radiation conditions; special comments on instructions; approvals; worker signatures and radiological measurements; and exposure approvals.

When welding or burning is done away from the established welding shop, a welding and burning permit is prepared. Health and Safety administers this permit system. Health and Safety personnel inspect the areas for fire safety as part of this control system.

No items of noncompliance were identified.

17. Training

a. New Employee Training

The inspector examined the documentation for the training of a new employee. This new employee started on November 24, 1980 and completed Health and Safety indoctrination training on December 2, 1980. This training included the following topics: Theory of radiation, use of instruments, contamination zones, radiation areas, calculation of dose rates, dose limits, decontamination procedures, chemical safety, fire safety, evacuation procedures, general plant safety, facility contingency procedures, industrial safety and a tour of the plant. The extent of retention and comprehension of the information presented was determined by means of written quizzes. The inspector examined the quizzes and determined that this new employee had obtained and retained a fundamental knowledge of the material covered.

No items of noncompliance were identified.

b. Ongoing Safety Training

According to licensee records examined by the inspector, during the time period January, 1980 through July, 1981, safety meetings were held at least monthly with personnel from each shift attending. Topics covered during these meetings included emergency procedures, review of the Health and Safety Manual, fire protection, respiratory protection, welding safety requirements and industrial safety. In addition, special safety meetings were held throughout the time period, in which topics such as, use of the standby boiler (TOP 31.5 Rev. 0), respiratory protection, and self monitoring were discussed.

It was also determined through discussions with licensee representatives that all of the plant Health Physics Technicians had been certified by the National Registry of Radiation Protection Technicians (NRRPT) following tests given on October 4, 1980.

No items of noncompliance were identified.

c. Operator Licensing and Requalification Training

There is currently only one type of operator license. This is a "plant-wide" license. There are two categories of licensed operators, senior operators (including plant management and shift supervisors) and operators. The plant-wide operator's license will be maintained while the plant is being operated in a shutdown condition. If and when the plant resumes normal operation, each operator will then have

to be requalified on the various plant operating systems. According to licensee records, there are 12 senior operators and 9 operators currently licensed at this facility. Of the 12 senior operators, 6 are licensed for an operating plant and of the 9 plant-wide operators, one is licensed for an operating plant. NRC administered tests were given to six individuals during March and July 1981. Four of the six received tests for the senior operator's license and 2 received tests for the plant-wide operator's license. All six individuals successfully completed the licensing examinations.

The inspector also reviewed records for the requalification training of the plant operators. The operators were given procedures for responding to abnormal or emergency conditions and Standard Operating Procedures on a quarterly schedule. Each operator also reviewed the procedures listed on the "Quarterly Abnormal, Emergency, and, SOP Review Checklist" with his supervisor and signed the checklist certifying that he had read and understood the contents of the reviewed procedures. It was determined that the "checklist" procedures are 3 months behind the actual calendar quarter. For example, procedures issued during the second quarter of the year must be reviewed and the sign-off sheet returned to the training coordinator prior to the end of the third quarter of the year.

Licensee records also indicated that the operators (senior operators and operators) were given an annual appraisal of the performance of their licensed duties. In each case the appraisal was conducted by the next higher level of management. In all cases, the performance of the operators was rated as being satisfactory.

No items of noncompliance were identified.

18. Supplementary Facility Tour

During the course of this inspection, the inspector was accompanied by the Regional Field Public Affairs Officer (FPAO) on a tour of the facility which was conducted by the facility General Manager. This tour was conducted to acquaint the FPAO with the facility and facility operations.

19. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection at about 10:15 a.m., on July 31, 1981. The inspector presented the scope and findings of the inspection and stated that no items of noncompliance had been identified. Remarks made by licensee representatives during the exit interview have been incorporated into the applicable paragraphs of the inspection report details.