U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

Inspection Report No.	70-7002/97-204
Docket No.	70-7002
Facility Operator:	United States Enrichment Corporation
Facility Name:	Portsmouth Gaseous Diffusion Plant
Observations At:	Piketon, OH
Inspection Conducted:	May 5 - 23, 1997
Inspectors:	Garrett Smith, FCOB Don Stout, FCLB
Approved By:	Philip Ting, Chief Operations Branch Division of Fuel Cycle Safety and Safeguards, NMSS

Enclosure

EXECUTIVE SUMMARY

PORTSMOUTH GASEOUS DIFFUSION PLANT
NRC INSPECTION REPORT
70-7002/97-204

Introduction

NRC performed a routine, announced chemical process safety inspection of the U.S. Enrichment Corporation (USEC) Portsmouth Gaseous Diffusion Plant (PORTS) at Piketon, OH, from May 5 - 23, 1997. The inspection was performed by staff from NRC Headquarters. The focus of this inspection was on the effectiveness of the facility's chemical process safety program, specifically focusing on the highest risk chemicals and their use on site.

During the entrance meeting, the inspectors asked plant engineers and management to identify what they viewed as the highest chemical risks on site. Their response was Hydrofluoric Acid/Fluorine (HF/F_2), Chlorine (Cl_2), Chlorine Trifluoride (ClF_3) and liquid Uranium Hexafluoride (UF_6).

Major programmatic portions of the chemical process safety program which were reviewed during the inspection included:

- Operating Procedures
- Detection and Monitoring
- Chemical Safety Training
- Maintenance and Inspection

Significant Findings and Conclusions

The PORTS GDP has adequately implemented the chemical safety program defined in Chapter 5.6 of the Safety Analysis Report (SAR) with respect to the high risk chemical operations that were observed by the inspectors.

General plant conditions and housekeeping throughout the plant were adequate. The storage of chemicals in the X-720 Warehouse Toxic Stores rooms was appropriate and chemical compatibility is considered prior to storage in these rooms. The efforts to dispose of the damaged HF storage cylinders adjacent to X-344 and reduce the fluorine storage hazard at the X-710 laboratory, as well as resolution of the potential for an unfavorable reaction between fluorine and organic based lubricant on fluorine feed lines in X-330, will be reviewed upon completion and tracked as inspector followup items.

The detection and monitoring program is adequate and appears to meet the requirements defined in the certificate, and all functional tests reviewed were performed per the applicable requirements.

DETAILS

1.0 Plant Tours

a. Inspection Scope

Tours were conducted at the X-326, X-330, X-333 Cascade Buildings, X-342A, X-343 Cascade Feed, X-342B Fluorine Generation Facility, X-330 and X-333 Chlorine Trifluoride Storage, X-326 Extended Range Product (ERP) Withdrawal, X-333 Low Assay Withdrawal (LAW), X-330 Tails Withdrawal, X-630 and X-633 Recirculating Cooling Water (RCW) Pumphouses, X-705 Decontamination and Recovery Facility, X-720 Maintenance and Warehouse, and X-344 Toll Enrichment Services Facility. The purpose of these tours was to inspect areas where high risk chemicals are stored and used.

b. Observations and Findings

Hydroflouric (HF) Acid and Fluorine (F_2) Use On Site

Portsmouth Gaseous Diffusion Plant (PORTS) currently uses four fluorine generators to produce F_2 gas from liquid anhydrous HF. The anhydrous HF is delivered to the plant in 850-pound cylinders. Currently, the plant requirements for F_2 are low, and the F_2 generation system is only operated three or four times per year. Despite the minimal use of the facility, it was in good material condition and appeared to be ready for operations when called upon.

Facility personnel pointed out two 850-pound HF storage cylinders that were located on the west side of the X-344 building. These cylinders were shipped to PORTS from the Oak Ridge Y-12 Plant as a cost savings measure. A problem report was issued in response to a notification from Air Products and Chemicals which supplies HF to the plant site. The notification indicated that HF cylinders in long term storage (fifteen to twenty years) had failed due to the disassociation of HF that formed hydrogen and fluorine inside the cylinder which caused increased pressures. These cylinders are believed to be 9 years old. Additionally, one of these cylinders has severe damage to the bonnet nut on one of its valves, and the other cylinder has insufficient thread engagement on both of its valves. According to a system engineering evaluation, these valve problems are not immediately dangerous but do prevent the cylinders from being shipped back to Oak Ridge or from using them on site. A problem report has been issued, and plans are being made to safely secure the HF in these two cylinders by PORTS personnel. The final disposition of these HF cylinders will tracked through **Inspector Followup Item (IFI) No. 97-204-01.**

Inspectors noted that the motor operated G-17 type fluorine feed valves (designated as FFD-1, FFD-2 and FFD-3) in the X-330 facility were leaking grease. The grease lubricant is organic based and will react with strong oxidizers, such as fluorine. A reaction between the grease and fluorine would create a fire. A problem report (PR-PTS-97-4524), was issued on May 8, 1997, to repair the leak and evaluate the compatibility issues associated with the gearbox lubricant used in fluorine applications.

The resolution of this issue will be reviewed during a future inspection and will be tracked as **Inspector Followup Item (IFI) No. 97-204-02.**

The inspectors identified a concern with the proximity of the X-710 Laboratory fluorine storage cylinder and the air intake for the building heating, ventilation, air conditioning (HVAC) system. Specifically, that if a fluorine release occurred the air intake could allow fluorine to be distributed into the X-710 building and could possibly expose personnel to the toxic and reactive gas. Facility personnel have committed to replacing the existing fluorine storage tank with a new system. This system will utilize vendor supplied fluorine cylinders within a vented enclosure. The vent will be routed to the roof of the X-710 building away from the HVAC air intake. The installation of a new fluorine supply system will followed and tracked through **Inspector Followup Item (IFI) No. 97-204-03**. This plan also calls for the disposal of the existing fluorine storage tank along with an adjacent tank located on the west side of the X-710 building. Final disposition of these two fluorine storage tanks will tracked through **Inspector Followup Item (IFI) No. 97-204-04.**

Chlorine (Cl_2) Use On Site

Inspectors toured the X-611E Water Treatment Plant and the X-633 Recirculating Cooling Water (RCW) Pumphouse to review the use of chlorine at PORTS. Currently, these are the only two areas on site that use 1-ton Cl_2 cylinders. In general, these areas were in good shape. During the tour, inspectors noted that chlorine detectors in X-633, had not been functionally tested since February 25, 1997. The Preventive Maintenance Program requires a monthly functional test. See Detail 3.0 - Detection and Monitoring, for the discussion on this issue.

Also during the tour of chlorine facility, personnel provided information concerning the reduction of chlorine usage on site. Chlorine had been used in all of the RCW Pumphouses to maintain microbiological control but is being replaced by the chemical, 1-bromo-3-chloro-5,5-dimethylhydantoin. This chemical is a white granule solid that is added to a hopper that automatically adds and mixes the chemical to the water to be treated. The replacement of chlorine with this "bromine" treatment chemical has reduced the potential acute chemical exposure risk to operations personnel in these areas. Presently, the X-626 and X-630 Buildings, utilize this "bromine" chemical treatment system and conversion of the X-633 RCW Pumphouse is expected in 1997. It should be noted that 1-ton chlorine cylinders will still be used at X-611E for potable water treatment and the sewage treatment plant will use smaller cylinders of chlorine as well.

Chlorine Trifluoride (ClF_3) Use On Site

The storage and handling of ClF_3 occurs in rooms on the ground floor of the X-330 and X-333 process buildings. Each area contains a piping manifold to empty 160-pound ClF_3 cylinders into a 2,000 cu. ft. storage drum. Once the ClF_3 is in the storage drum, it is mixed with F_2, as needed, to support cascade operations. The inspectors observed operations personnel in the X-330 Cascade building perform a cell treatment operation for one of the converters. The personnel performing the operation

were experienced, knowledgeable, and aware of the hazards associated with chemicals being used. This operation was completed, and no discrepancies were noted.

Liquid Uranium Hexafluoride (UF_6 Handling and Storage On Site

Liquid UF_6 is the greatest chemical risk on site. It is stored above atmospheric pressure, and if released, will react with the moisture in air to release large amounts of UO_2F_2 + HF.

The inspectors observed the transfer of material from a "parent" 10-ton cylinder to a daughter 2.5-ton cylinder. After the daughter was filled and the pigtail was removed from the 2.5 ton cylinder, the cylinder was weighed and moved out to the liquid UF_6 cooldown area (LUCA) where tracking tags were attached, and appropriate paperwork was filled out. The overhead crane operation for the liquid cylinder was conducted with caution. No problems were noted during this operation.

During the tour of the X-343 Sampling and Feed Facility, the inspectors observed Paducah GDP product cylinders being off loaded. No problems were noted. The inspectors randomly selected one UF_6 cylinder in the LUCA to verify that the proper date and time for cooldown was recorded. The logbook contained the appropriate information for the cylinder, including date and time when the cylinder was filled and the date and time when the cylinder could be moved. No problems or discrepancies were noted.

Miscellaneous Chemical Use and Storage Areas on Site

The inspectors toured the chemical receiving area, the full cylinder storage dock, and the toxic lockers in the warehouse. Receiving and storage personnel utilize a hazardous material segregation chart to ensure that no chemical incompatibility concerns exist while the chemicals are in storage. Labeling and housekeeping in these two areas were good. No problems were noted in these areas.

During a tour of X-700 Decontamination Facility Methanol (MeOH) Storage Tank, it was noted that two unlabeled drums of material, reported to be ethanol, were being stored adjacent to and outside the containment dike. Facility personnel issued a problem report (PR-PTS-97-0917) and indicated that labels would be applied to the drums, and they would be moved onto a containment type pallet. It was also noted that the MeOH storage tank contained both a pressure relief device and vacuum relief device. When questioned about preventive maintenance (PM) for these devices, facility personnel stated that these devices were not on the plant PM equipment list for relief devices, due to an oversight, but would be added.

Underground tunnels that run from the X-300 Plant Control Facility (PCF) to Cascade buildings X-326 and X-333, were walked down by the inspectors. Tunnels are used for emergency egress and also contain electric and instrument cables that provide alarm signals to the PCF and also provide remote process control from the PCF to Cascade Operations. The tunnels are free of debris and are well lit. Inspectors

observed standing water in a couple of areas for both tunnels. Plant personnel indicated that the water enters the tunnels through wall penetrations and cracks. A broken cable tray, that provides support for the wire cables, was noticed in the X-333 tunnel. Wires were approximately 12 inches above the water level. The tunnels are walked down once per week and checked for accumulated water and burned out light bulbs. Any accumulated water is pumped out if levels become high enough and do not drain through floor drains. The water is sampled for organic contamination prior to pump out and disposal. Water is a concern due to possibility of creating a electrical short with the cables and the possible loss of an alarm signal to or control function from X-300. Facility personnel indicated that a work order to repair the cable tray had been written.

During inspection of the Paducah Gaseous Diffusion Plant, it was noted that arsenic was being encountered during some maintenance activities. The arsenic contamination occurred during the 1980's from contaminated UF_6 feed from a foreign source, and arsenic has been passed to PORTS through feed material. From October 1993 through February 1995, over 625 air samples were taken at PORTS to determine the location of arsenic. Sample results indicate that the X-326 Evacuation Booster Station, the electrolyte in the X-342 fluorine generators, and Unit 25-7 in X-326 cascade building do exceed OSHA limits for arsenic exposure and additional protective measures, such as personnel protective equipment required by the Industrial Health and Safety organization, are required when work is performed in these areas.

c. Conclusions

The PORTS GDP has adequately implemented the chemical safety program defined in Chapter 5.6 of the Safety Analysis Report (SAR) with respect to the high risk chemical operations that were observed by the inspectors.

General plant conditions and housekeeping throughout the plant were adequate. The storage of chemicals in the X-720 Warehouse Toxic Stores rooms was appropriate and chemical compatibility is considered prior to storage in these rooms. The efforts to dispose of the damaged HF st ıge cylinders adjacent to X-344 and reduce the fluorine storage hazard at the X-710 laboratory, as well as resolution of the potential for an unfavorable reaction between fluorine and organic based lubricant on fluorine feed lines in X-330, will be reviewed upon completion and tracked as inspector followup items.

2.0 Operating Procedures (88058)

a. Inspection Scope

The inspectors reviewed the operating procedures (OPs) to determine if chemical operations with licensed material, or operations with chemicals that could affect the safe handling of licensed material, are conducted in a safe manner.

b. Observations and Findings

During observation of conditioning gas use in the X-330 cascade building, the inspectors noted classified procedure CN-4.10, "Treating Oil Contaminated Compressors with Fluorine," revised on September 1, 1988. Due to the potential hazard associated with this operation, the inspectors have requested that a copy of the procedure and its associated safety basis be sent to NRC headquarters for further review. Discussions with plant personnel indicated that the procedure had not been used since 1989. Plant management agreed to provide the two documents and placed the procedure on hold until an internal review of the safety basis has been completed. The completion of this review will be tracked as **Inspector Followup Item (IFI) No. 97-204-05.**

Procedure XP2-SH-SH3050, "Actions to be Taken During a UF_6, HF, F_2 or ClF_3 Release," contains straightforward information about what personnel should do if they see or smell UF_6, HF, F_2 or ClF_3. The procedure also allows personnel to take actions to mitigate a release if the actions can be performed remotely and without risk of exposure to hazardous chemicals. In the Precautions section of procedure XP4-CO-CA2360, "Operation of the LAW Station," personnel are allowed to isolate equipment and activate the high pressure venting (HPV) system while executing the "See and Flee" policy. Both procedures contain Warnings and Caution Notes that discuss the hazards and protective features necessary to prevent injury.

Procedure XP2-SH-CH1030, Revision 0, "Chemical Safety Program," adequately outlines the expectations of the program. It provides a clear flowdown path for the chemical safety requirements outlined in Chapter 5.6 of the SAR. Included in the procedure are matrices that identify functional areas and responsible organizations for each area, such as process safety information, process hazard analyses, training, and maintenance. Chemical safety is addressed through a graded approach that defines the following potential chemical risk categories.

- Chemicals addressed by the Accident Analysis

  The chemicals in the accident analysis are UF_6, F_2, and ClF_3. These chemicals present the highest risk on site and receive the greatest attention from the chemical safety program.

- Chemicals addressed by the Regulatory Thresholds

  This includes the OSHA Process Safety Management Program (29 CFR 1910.119) listed and chemicals Cl_2, ClF_3, HF, and F_2 and in the future will include any additional chemicals that are covered by the EPA Risk Management Plan (40 CFR 68).

- Industrial Hygiene and Safety (IH&S) Program Managed Chemicals

  These programs are general in nature and are based on industry accepted standards and regulatory requirements for controlling occupational chemical

exposures. The chemicals covered under this program are varied but would include nitric acid, methanol, potassium hydroxide, tri-butyl phosphate, kerosene, sulfuric acid, and sodium hydroxide.

c. Conclusions

The chemical safety program definition procedure XP2-SH-CH1030 adequately defines the program that is required per Chapter 5.6 of the SAR. The other procedures that were reviewed were adequate and included appropriate precautions, warnings and safety equipment requirements for expected chemical hazards.

3.0 Detection and Monitoring (88060)

a. Inspection Scope

The inspectors reviewed the detection and monitoring program to ensure that the facility has detection and monitoring devices available to alert plant personnel of leaks involving the highest risk chemicals on site, and that calibrations and appropriate functional tests of the detectors and monitors are carried out, as required.

b. Observations and Findings

UF_6 Smoke Detection System

According to SAR Section 3.2.2.4.2, "Outleakage Detection System," three separate smoke detection systems are used to monitor the withdrawal facilities, where operating pressures exceed or may exceed atmospheric pressure. The Cascade Automatic Data Processing (CADP) detection system, located throughout the Cascade Facilities, monitors for outleakage and provides an alarm to the Area Control Room (ACR). The second system is the High Voltage Smoke Detector System, located in the Accumulator/Condenser areas for Extended Range Product (ERP), Low Assay Withdrawal (LAW), and Tails Withdrawal (Tails). The High Voltage system is designed to detect outleakage and alarm to the ACR. The third system is the Pyrotronics Smoke Detector System which upon sensing a release, provides an alarm and activates related safety interlocks. The interlocks activate the High Pressure Venting (HPV) system, for ERP and LAW, and close the pigtail fill valve for all three locations.

The three UF_6 detection systems are used in combination to provide double coverage in the accumulator/condenser, and withdrawal (pigtail) areas. The Technical Safety Requirements (TSRs) require quarterly smoke testing for pigtail and compressor smoke detectors. These areas use both the High Voltage and Pyrotronics Detector Systems.

The TSR requires a monthly test to verify that the CADP-type smoke detectors in the areas of the X-326, X-330, and X-333 Cascade cells that operate above atmospheric pressure will provide an alarm condition in the ACR. These tests do not involve applying smoke to the sensor heads. Instead, the system is tested via computer or manually, by forcing the detector to alarm within a fixed period of time. The CADP

system includes the majority of the UF_6 smoke detectors that are in use. It is possible that a blocked or obstructed detector head would continue to perform during the forced alarm cycle, but would not operate correctly if a release occurred and the detector ionization chamber was blocked. Plant personnel stated that the redundant sensor heads would provide coverage in the event that this had occurred.

Based on a review of records, tests were conducted in accordance with the TSR surveillance requirements for all detectors, and no discrepancies were noted.

ClF_3 Monitoring at X-330 and X-333

There is not a ClF_3 or F_2 detector in the X-330 or X-333 ClF_3/F_2 storage drum rooms. Because the system is operated under a vacuum, any potential leak would be detected by an increase in cylinder pigtail pressure or storage drum pressure. The pressure is maintained below atmospheric pressure. Section 3.1.1.6.8.11 of the SAR, Monitoring and Protection Systems, discusses the anticipated actions when the ClF_3/F_2 2000 ft^3 storage drum pressure reaches the alarm point of 12.5 pounds per square inch absolute (psia). For comparison, atmospheric pressure is 14.7 psia. The following is expected to occur: audible and visible alarms in the Area Control Room; closing of the control valve between the loading manifold and storage drum; turning off the light over the entrance door to the storage drum room; and activation of an alarm bell at the entrance of the storage drum room. It also provides the following directions if the alarm does occur.

> Operations personnel immediately proceed to a location near the ClF_3 storage drum room. The alarm does not necessarily indicate that a release has occurred, but it must be assumed that a ClF_3 release has occurred if cylinders are feeding. The first action is to close the ClF_3 cylinder valves with the remote valve handwheels outside the ClF_3 storage drum room and then start the ventilation exhaust fan to purge the room. The entrance door may not be opened at this time but the glass in the door would be checked for any etching that might indicate a release may have occurred. The storage drum room would not be entered until after the room had been thoroughly purged by the exhaust fan (approximately ten minutes). No gas masks are worn upon entering the room because odor detection is the best method for leak detection. Chemical suits and self-contained breathing apparatus is available to emergency response personnel if needed.

Additionally, the operation procedures for the two storage drum rooms state that the CG storage room shall not be entered if the alarm light is off, the local alarm bell is activated, or the glass on the door is frosted.

The licensee was asked to provide the safety basis for the statements made in the paragraphs above. Specifically, assurance that personnel performing these steps are not exposed to dangerous concentrations of ClF_3/F_2, at what concentration will ClF_3/F_2 etch glass, the predicted ClF_3/F_2 concentration after ventilating the room for ten minutes, and the impact on surrounding buildings after exhausting ClF_3/F_2 gas at the roof level. The completed safety basis will be reviewed during a future inspection and tracked as **IFI No. 97-204-06**.

The Process Hazard Analysis (PHA) for this system raised similar concerns regarding the recovery from a potential ClF_3/F_2 release. It was not immediately clear to PORTS personnel the status of resolution of the concerns documented in the PHAs. The status of PHA concerns and their resolution, including responsible persons and scheduled completion dates will be reviewed during a future inspection and tracked as **IFI No. 97-204-07**.

Chlorine Leak Detectors

During tours of the chlorine systems, the inspector noted that calibration stickers reviewed were not current. The Preventive Maintenance (PM) Program requires a monthly functional test. Two problem reports, PR-PTS-97-4489 and PR-PTS-97-4508, were issued, and tests were successfully conducted on 5/7 and 5/9. Discussions with the Work Control Group indicated that the transition from the previous PM Program scheduling tool, Automatic Scheduling Program (ASP), to the new scheduling and tracking tool, Computerized Maintenance Management System (CMMS), was the reason for the missed functional tests. During this transition, planners were required to review work packages to ensure that the computerized document conversion generated a workable and readable package. Once this review was complete, the package was released for work. In this case, a backlog of work caused these packages to be held up in the review stage, and they were not released for work. This oversight was immediately corrected, and a meeting for all planners was held to reemphasize the importance of this review step. No other concerns were noted.

The inspectors attended a Chlorine Release Drill at the X-611E Water Treatment Plant. The drill was cancelled while in progress due to an actual alarm that required the onsite Emergency Response Team. The alarm turned out to be a false alarm of a fire sprinkler head in a Cascade building. The part of the drill that did occur prior to cancellation appeared realistic, such as the use of actual smoke to simulate a chlorine release and involvement of Security and the Fire Department. It should be noted that the transition of the emergency responders from the drill to the actual event response appeared to be smooth and occurred with no apparent confusion.

HF/Fluorine Leak Detectors

The X-342B fluorine generation facility HF/F_2 detection system was currently undergoing improvements that will add additional detectors to the existing system. Inspectors reviewed the functional test of HF/F_2 detectors for a 12-month period, and no discrepancies were found. An inspector followup item will be opened to track the installation of new HF/F_2 detectors. The existing system alarms to the local control panel and the Plant Control Facility (X-300). The completion of the detector system upgrade will be reviewed during a future inspection and tracked as **IFI No. 97-204-08**.

c. Conclusions

The detection and monitoring program is adequate and appears to meet the requirements defined in the certificate, and all functional tests reviewed were

performed per the applicable requirements. Although the operating procedures adequately describes the precautions and limitations used if a ClF_3/F_2 release is believed to have occurred, the safety basis used to support the ClF_3/F_2 alarm response guidance in the SAR was not readily available to the inspectors during the inspection. An IFI was opened to review this safety basis during a future inspection.

4.0 Training (88061)

a. Inspection Scope

The inspectors reviewed PORTS chemical safety training to verify that the plant has established training for chemical hazards that: identifies safety and health hazards, specifies personal protective equipment use; identifies training requirements; qualifies instructors; measures performance of the program; maintains records; and ensures that safe work practices are adequately covered.

b. Observations and Findings

Personnel receive training on chemical hazards related to their particular job assignment, e.g. Cascade Operator or Chemical Operator. Each individual group has a Training Requirements Matrix (TRM) that specifies what training modules are required in order to be qualified and work without immediate supervision. The TRMs for Feed Group and Chemical Operators was reviewed as well as the following training modules:

- 2.01.01, "Chemical Hazards of HF & F_2;"
- OCA.02.13.19, "Conditioning Gas Storage System Operation;" and
- MAN.02.06.02, "Chemical Safety."

The TRMs and training modules appeared to consider expected hazards and adequately discuss chemical hazards. Written tests and skills test are required for several training modules to qualify operators. Realistic drills are scheduled to reinforce safe work practices and test operator response for simulated upset conditions or TSR requirements.

Additionally, the inspectors reviewed the training records for two members of the Training Department staff to ensure that they had been properly trained and were currently qualified. Training records for two Cascade operators were also reviewed. No discrepancies in the training records were noted.

c. Conclusions

The training program adequately addresses chemical safety hazards that are directly involved with or could effect the processing of licensed material. No discrepancies were noted.

5.0 Maintenance and Inspection (88062)

a. Inspection Scope

The inspectors reviewed the maintenance program to determine whether the certificatee has developed maintenance procedures and schedules and whether they are being followed. The emphasis is on utilizing safe work procedures and practices such as lockout/tagout, authorization to perform work, safety and health work permits, release of equipment from operations/approval to start work, work instructions, post maintenance testing, and the return of equipment to service.

b. Observations and Findings

The Work Control (WC) group is a separate functional group from the Maintenance Department and is responsible for ensuring that maintenance is not performed until all WC Program requirements are satisfied. This includes preventive maintenance (PM) for TSR surveillances, and items that require calibration and/or functional tests.

A Maintenance Service Request (MSR) for the quarterly instrument calibration of the Conditioning Gas Pressure Blind Multiplier (PBM) at cascade building X-333 was reviewed. The PBM instrumentation provides the ClF_3 cylinder pigtail and ClF_3/F_2 storage drum pressures. The Work Control Checklist had been completed with necessary review/approvals from Work Control, Engineering, Operations, and Maintenance functions. These approvals required that the following steps be performed: work package initiation; permits; pre-job briefing; management review/approval, permission to start work, post maintenance testing; and post maintenance review/approval. The MSR package also contained detailed work instructions, Pre-job Briefing Attendance Sheet with discussion topics, and a Material Safety Data Sheet for ClF_3. The package appeared complete and contained required signatures.

c. Conclusions

The Preventive Maintenance program does control and schedule the required maintenance of alarms used to monitor hazardous chemicals used at the facility. The work package issued by the Work Control group appears to adequately address safe work practices.

MANAGEMENT MEETINGS

Exit Meeting Summary

Inspectors met with PORTS management representatives throughout the inspection. The exit meeting was held on May 23, 1997. No classified or proprietary information was identified. The following is a list of exit meeting attendees:

G. Smith, NRC/NMSS
D. Stout, NRC/NMSS
J. Morgan, USEC/LMUS
T. Hester, USEC/LMUS
D. Rockhold, USEC/LMUS
D. Ruggles, USEC/LMUS
S. Martin, USEC/LMUS
K. Tomko, USEC/LMUS
M. Hasty, USEC/LMUS
R. Gaston, USEC/LMUS
S. Casto, USEC/LMUS
C. Walder, USEC/LMUS
G. Salyers, USEC/LMUS

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

IFI 96-204-01	Final disposition of two HF cylinders located on the west side of the X-344 building
IFI 96-204-02	Resolution of G-17 type valve lubricant compatibility issues
IFI 96-204-03	Installation of new X-710 building fluorine supply system
IFI 96-204-04	Disposition of two fluorine tanks currently used to supply fluorine to Building X-710
IFI 96-204-05	Review of procedure CN-4.10, "Treating Oil Contaminated Compressors with Fluorine," and its associated safety basis
IFI 96-204-06	Review of the ClF_3 monitoring and incident response safety basis
IFI 96-205-07	Status of PHA concerns and their resolution
IFI 96-205-08	Tracking the completion of the X-342B HF/F_2 detection system upgrades

LIST OF ACRONYMS USED

ACR	Area Control Room
ASP	Automatic Scheduling Program
CADP	Cascade Automatic Data Processing
Cl_2	Chlorine
ClF_3	Chlorine Trifluoride
CMMS	Computerized Maintenance Management System
ERP	Extended Range Product
F_2	Fluorine
GDP	Gaseous Diffusion Plant
HF	Hydrofluoric Acid
HPV	High Pressure Venting
HVAC	Heating, Ventilating, and Air Conditioning
IFI	Inspector Follow-up Item
IH&S	Industrial Hygiene & Safety
LAW	Low Assay Withdrawal
LUCA	Liquid UF_6 Cooldown Area
MeOH	Methanol
MSDS	Material Safety Data Sheet
MSR	Maintenance Service Request
OP	Operating Procedure
PBM	Pressure Blind Multiplier
PCF	Plant Control Facility
PHA	Process Hazard Analysis
PM	Preventive Maintenance
PORTS	Portsmouth Gaseous Diffusion Plant
PSIA	Pounds Per Square Inch Absolute
RCW	Recirculating Cooling Water
SAR	Safety Analysis Report
TRM	Training Requirements Matrix
TSR	Technical Safety Requirement
UF_6	Uranium Hexafluoride
WC	Work Control