70-7002

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LOCKHEED MARTIN

March 25, 1998
POEF-005-98-016

Mr. John Haberthy
President,
United Plant Guard Workers of America
Local 66
P. O. Box 628
Piketon, Ohio 45661

Dear Mr. Haberthy:

Answers to UPGWA Questions

Please find attached the reply to your letter to the undersigned dated January 14, 1998. In compiling this detailed response, we have attempted to address all of your concerns as succinctly as possible. We have incorporated information from various internal sources, USEC, Lockheed Martin Energy Systems, and elements of the Department of Energy. We have been advised by USEC that Ms. Elizabeth Ten Eyck of NRC Headquarters will reply to your letter by separate letter.

In order to enhance reference and review, we have broken down your request for information by the key Issues and then numbered the related Issue questions and our answers. We have preceded each Issue with a summary paragraph to capture the focus of the Issue and our answers are provided in bold type for clarity.

Please contact me or Lynn Calvert if you need further information. Your patience in awaiting our reply is appreciated.

Sincerely,

James B. Morgan
Acting General Manager

JBM:OLC:cs

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NTO4

March 4, 1998

ANSWERS TO UPGWA CONCERNS

I. **Issue 1:** **Firearms Training**

Our management has been forced into a position that the budget and the manpower for the training department has dictated the amount of training provided for the use of firearms. What training should accomplish is to give the employee the opportunity to identify and correct errors made. If the officer determines those errors are not correctable, then he/she must understand the consequences. If the consequences are major, then he/she must decide what immediate alternative sanctions can be accomplished. For this to occur, training is essential. We should be provided additional funds and time to allow for rehearsal opportunities prior to qualifications. (We reference the Quality Panel meeting dealing with SRS concern of increasing the size of the head shot so officers could be more accurate.) The result is that DOE expects an officer to learn during his/her training experience so accuracy is accomplished.

The Protective Force structure, coupled with Design Basis Threat requirements, has created an increase in training requirements but decreased availability. Attached is a list of training officers receive and the actual training which has been completed. The notable difference is due to lack of funding and manpower. We have created a force that is not receiving newly-developed training or training that we have had in the past. (See Attachment 1.)

1) Why has our site evolved to firing our service weapons for qualification purposes only?

The current firearms program at Portsmouth allows the Protective Force Officer to not only meet his/her semi-annual qualification, but results in an average of two additional trips to the range.

LMUS utilizes the outdoor range to conduct the stress shooting course and to complete a portion of our annual individual training needs analysis by having a large percentage of the officers refire the Scenario Course for Firearms Qualification.

The Scenario Course for Firearms Qualification, issued by DOE in April of 1994, was developed to address an OSS recommendation to "increase the realism of training" and to emphasize the development of courses of fire and tactical exercises that require Protective Force members to move, shoot, reload, take cover, communicate, and use equipment such as masks and

Issue 1–cont.

night-vision goggles in situations that simulate actual security emergencies." The DOE Firearms Working Group recommended that the courses be utilized in place of one of the semi-annual qualification periods.

Each SPO II is required to qualify on the standard day and night qualification courses annually. On semi-annual qualification, the SPO fires three of the scenario courses; two under daylight conditions and one under dark conditions.

In late spring of 1996, the Portsmouth Protective Force started to fire the three Scenario Courses chosen for use at the outdoor and indoor ranges. SPO IIs practice the effective use of cover and concealment, as well as loading and moving from position to position. The course also requires transition to other weapons (i.e., rifle, shotgun and submachine gun). Also, multiple targets were added, identified, and engaged at each firing point (i.e., shoot/don't shoot targets). The multiple targets also provide various levels of threat (i.e., shotgun, handgun, or submachine gun) at close range.

These same Scenario Courses are used as a stress shooting course prior to semi-annual qualifications and are used again during our annual training needs analysis. This allows LMUS management to review the firearms training and make any changes necessary if the officers are performing incorrectly or need remedial training.

2) Why have training requirements been increased and availability decreased?

At Portsmouth during the mid-1980s, weapons training and qualification scores were well below that expected by DOE standards. During the timeframe of 1985-1987, large expenditures of funding, weapons upgrades, lesson plans, and staffing units were expended to increase personnel weapons proficiency. Over the last ten years, weapons proficiency has been maintained by a professional training staff equipped with sufficient resources and materials needed to accomplish the firearms training required to meet the qualification standards listed in the DOE Qualification Manual and DOE Order 5632.7A. Further, the Remedial Training Program is in place to ensure that individuals who fail to qualify have the opportunity to practice prior to a second attempt at qualification. The consistent high rate of

Issue 1--cont.

personnel qualification and the minimum use of the Remedial Firearms Training Program is testament that the DOE and USEC funding level remains sufficient to assure trained personnel are available to protect the interests of all regulatory entities.

At Portsmouth, the scope of training for the Protective Force is based on the following:

a. DOE requirements
b. NRC Certification document
c. General Employee Training
d. Job task analysis
e. Training needs analysis
f. Annual training plan

The resources and funding for training the Protective Force at the Portsmouth site, have been adequate to accomplish the required training imposed by all regulatory bodies. At present, on the average, Security Police Officers (SPOs) receive 100 hours per year of training. This training involves safety, firearms, job specific, site specific, regulatory driven, and procedural changes. Recent audits and self-assessments by both DOE and the NRC indicate the adequacy of the training program is sufficient to meet and maintain a professional Protective Force.

II. Issue 2: Unannounced Audits*

During the April 28-May 9, 1997 audit, the DOE auditor for the Protective Force met with our union officials. His comments to us were troubling at best. In reference to the armorer position onsite, he stated, "How does he complete the task of the armorer position certifying and processing weapons and manage the training section for the Protective Force? There have to be deficiencies." The auditor then went on to state that he "found everything to be in order." He further explained that he was working this "side job" which keeps him "traveling and piddling in some type of audit business." Our questions are as follows:

1) With this type of performance and attitude, why didn't the auditor document his feelings to us in writing in the final report?

Although the auditor may have questioned the number of tasks this individual is required to perform, after his review he found everything to be in order.

The armorer position is not a full-time job. Many sites do not have a full-time armorer. We have, and will continue to complete the semi-annual inspection on all issued weapons. It should be noted that the requirement to inspect weapons is specific to issued weapons. Non-issued weapons do not require semi-annual inspection but are subject to regular inventory requirements.

2) Why is an auditor of this type allowed to perform an audit?

Auditors are selected by DOE. The auditor in question has been with DOE for many years, and upon his retirement, was the Safeguards and Security Director for the Hanford, Washington, facility, and had one of the largest guard forces in the country. The auditor is very knowledgeable and was fair during the inspection process. Personnel may have misunderstood comments made during casual conversations with the auditor.

*See Page 5.

Issue 2–cont.

3) Why does DOE continue to notify sites of announced audits?

The DOE and NRC have both announced and unannounced inspections. The type of inspection is selected by the regulator. Announced inspections allow the contractor to schedule the needed manpower to adequately cover increased logistical tasks during the inspection.

4) Why was the audit team allowed to have former employees of our site (i.e., June 23-27, 1997) to perform these security evaluations?

The auditing team onsite during the period in question was contracted through DOE Headquarters. It is not unusual for audit teams to select members familiar with a particular site or operation. This approach is taken to increase the depth and quality of the audit.

5) Why does management continue to increase the amount of manpower (overtime) for these types of audits?

DOE Order 5630.12A, "Safeguards and Security Inspection and Assessment Program," Section 6 (1) (a) and (c) requires DOE to inform the site to be audited at least 30 days in advance, when practical. LMUS will then schedule the appropriate amount of overtime to ensure the auditing group can fulfill its mission while maintaining the mission of LMUS to fulfill the security requirements to its customers. Additionally, DOE Order 470.1, Chapter IX, details the security survey program.

Also in response to Issue 2, please refer to Attachment 2, the memo from Ms. Barbara R. Stone, Director, OSE, to Mr. Eugene Gillespie, PORTS DOE Site Manager, dated February 20, 1998, entitled "UPGWA Concerns."

III. Issue 3: Offensive SPOs vs. SRTs

There is non-existent training for offensive/SRT officers. Statements have been made by upper management that there was a buy into "no need for SRT." In "Nuclear Theft: Risks and Safeguards," written by Mason Willrich and Theodore B. Taylor, it states that an individual only needs a small amount of time to barricade in a facility like ours to reek havoc and place the public in danger as well as the nation's assets. NOTE: Our MOU for local law enforcement agencies (LLEA) to respond to our site for mutual aid would be a useless, due to our surroundings and their lack of manpower and experience.

1) Do DOE Orders state that when Category I is present there be an SRT Team assembled?

In reference to DOE Order 5632.7A, SRTs are required only at sites with Category I quantities of Attractiveness Levels A&B SNM. At Portsmouth, the highest level is currently Category I, Attractiveness Level C, per DOE Order 5633.3B. The Portsmouth facility implemented the reduced requirements in 1994 (SRT to SPO II Offensive) based on the Order requirements. It must be noted that at no time were the former SRT patrols, post, or responders reduced. The only change implemented at the Portsmouth site was in reduced SRT training. This was done based upon DOE Orders 470.1 and 5630.15. At Portsmouth, our former SRT personnel are now SPO II Offensive, based on an adversary interdiction role in the response plan.

2) If the SRT Offensive Team is eliminated, won't the well-being of employees, public safety/health, and the nation's nuclear assets be compromised?

At Portsmouth, the Offensive SPO II position has been maintained in compliance with DOE Orders 5632.7A, 5633.3B, 470.1, and 5630.15. Recent audits have found no differences that would impact the well-being of employees, public safety and health, or compromise the national security.

IV. Issue 4: Chemical/Biological Weapons

Emerging threats include credible scenarios for terrorist use of weapons of mass destruction. The policy is from the OSS May 24, 1996. We are requesting first responder training for our force.

1) Why has the Portsmouth site ignored and not placed in its policy guidelines for the "Implementation of Chemical/Biological Weapons (CBW) Protection?

PORTS is cognizant of the DOE Design Basis Threat and implementation correspondence generated by DOE. A multi-disciplined Implementation Team (including Security, the Protective Force, Fire Services, Industrial Hygiene, Medical Services, and Emergency Management) is in place to address potential concerns in this area. Further, a qualitative review of the current threat spectrum has been completed, and a PORTS site position paper was developed outlining the applicability of the referenced issues. The PORTS position was submitted to, and received concurrence from the DOE Site Office and the Oak Ridge Operations Office, and will serve as the baseline for further review and analysis during the next iteration of SSSP development. Should upgrades appear to be required following completion of this effort (possibly including hardware, equipment, and/or training), the request will be forwarded to DOE for funding consideration.

V. Issue 5: Toxilogical Sabotage*

Our understanding of toxilogical sabotage is there is no resolution to the risk for substances on our site. There has been risk identified however, and no answer has been provided. During the January 6, 1997 meeting with Ms. Elizabeth Ten Eyck, the NRC stated that a chemical safety audit is in process for the week of January 5, 1998. We would like to be provided with a copy of the findings and recommendations from this audit. In addition, Bern Stapleton (USEC) stated there were studies being conducted on the subject of chemicals and sabotage and he would get back with us with some information.

1) What is the effect of toxilogical sabotage on the leased USEC buildings? Explain.

The studies referenced by Mr. Bern Stapleton are the accident analyses contained in the Safety Analysis Report (SAR) which address radiological and non-radiological chemicals having a potential risk. The analyses identified engineered and administrative controls required for safety. The chemicals and chemical mixtures that have potential significant chemical risk and/or safety concerns are described in Chapters 3 and 4 of the SAR. Chapter 4, Apppendix A, contains properties and estimated health effects of hazardous materials in a GDP.

***As requested, a copy of the Chemical Safety Audit, which was in progress, has been attached (Attachment 3).**

VI. Issue 6: Responsibilities/Jurisdiction

During a recent meeting, the following scenario was offered for comment. An individual drives through the fence, entering the CAA. He proceeds to the opposite end of the facility and is apprehended by a security officer. The officer notifies supervision. Twenty minutes later, an SNM shipment from one area to another occurs within our facility. Our commander is ordered to allow for the shipment--against his professional judgment.

1) What is the proper procedure to address this scenario?

Incidents may occur during site operations which may not be covered in a specific procedure. The Shift Superintendent, Security Manager, Protective Force Shift Commander, etc., make judgment calls based on guidance from a number of procedures and the specific information available. In this specific scenario, the senior Security representative, along with concurrence from the Shift Superintendent and Protective Force Shift Commander, did not believe, based on the information available, that there was a credible threat against the PORTS site or SNM stored at the site. Based on the information at hand, the security emergency was canceled and the SNM shipment was allowed to proceed. The statement that this was done without the full concurrence of the Protective Force Shift Commander, is not accurate. Procedures which reference incidents of this type include:

- **XP2-SS-SS1032, "Security Shipments"**
- **XP3-SS-SP8111, "Protective Force Non MAA and on PA Response"**
- **XP2-SS-SP1040, "Onsite Protection of Government and License Shipments of SNM"**
- **XP4-SS-SP1120, "Material Shipment Protection"**

2) Who is responsible for the decisions during this scenario?

The responsible management includes the: Shift Superintendent/senior management, Security representative, and Protective Force Shift Commander onsite.

Issue 6–cont.

3) What did the NRC mean by stating this scenario was a "mute point"?

Our understanding of the comment was that the perimeter fence does not absolutely preclude entry to the site.

4) Who is responsible for the boundary?

The boundary of the DOE property continues to be under the oversight of DOE. Buildings and areas on the reservation may be operated either as DOE or USEC interests, depending on the lease agreement. DOE facilities are regulated by DOE, and USEC facilities are regulated by the NRC. For these facilities, the PORTS Protective Force may take necessary actions, defined by the limits of authority under the Atomic Energy Act, for situations and conditions which could impact the protection of DOE and USEC interests at the site.

5) Who is responsible for the perimeter road?

The perimeter road is maintained as a USEC "facility," and is normally configured as a public access roadway. As such, the Pike County Sheriff Department has primary jurisdiction for law enforcement functions on the roadway, while the PORTS Protective Force may take necessary actions, defined by the limits of authority under the Atomic Energy Act, for situations and conditions which could impact the protection of DOE and USEC interests at the site.

6) Who makes sure there is protection for these areas?

This is fulfilled by LMUS per mandates and requirements set forth by DOE, USEC, and NRC.

7) Who is responsible for the Controlled Access Area (CAA) fence?

The configuration of the current CAA boundary meets the requirements of both the NRC (as outlined in the certification documents) and the DOE, as specified in the requisite DOE Orders. As a leased "facility," the CAA fenceline is regulated under the NRC, with DOE receiving the results of NRC reviews. It is intended that the CAA boundary will continue to be

Issue 6–cont.

maintained as currently configured, unless modifications are made to meet site operational needs. If made, the modifications will be subject to the review and approval of the NRC.

VII. Issue 7: Protection of HEU Category I & II

Prior to the NRC becoming our regulator, DOE maintained there needed to be sufficient barriers in place to delay entry to our facility. We feel the transition between DOE and USEC does not utilize this barrier at the proper level.

1) If it is true that DOE and USEC are sharing services for protection, then how is DOE allowing for a barrier such as the CAA fence to be a "mute point"?

The CAA fence is one of the layers of a multi-layered security system.

The current CAA fence boundary meets the requirements specified in DOE Order 5632.5, Section 10b. Additionally in the NRC certification document, the "Classified Matter Protection Plan," RE15 at Section "8.1.1 CAA Security Fencing," dated December 19, 1997, describes USEC's and LMUS' commitment to maintain and protect the CAA fenceline. Also, please refer to Issue 6, Questions 3 and 7.

2) How will this transition be addressed since our concerns were voiced at the January 6, 1998 meeting?

At present, all commitments are being met concerning the CAA/LA fenceline. No changes to the current protection strategies are required nor anticipated.

VIII. Issue 8: Retro-Europe

In 1996, our union presented Mr. McFadden with pictures of the types of vehicles being stored, without protection, in the Retro-Europe compound. He was concerned. We feel that this compound, which is unguarded and uncontrolled during the day, is a risk to the material as well as the public safety. When the Office of Safeguards & Security (OSS) brought the concern to our site, the contractor quoted a figure to protect the facility. We cited the example of the amount of FTEs needed to perform this protection as identical to that of the Cooling Tower jobs ($77,000). However, the quote to perform the work for Retro-Europe was priced as $238,000. This inflation of cost in our view priced our union out of work, plus, placed the facility and the public at risk. Our union was then told by Edward McCallum, Director of OSS, that "the issue has been worked without your knowledge" and "Security measures and mechanical steps that were implemented to render all operational vehicles incapable of being utilized for non-authorized purposes" (see Attachment 1). Our union feels this was not enough, due to the incident on October 1997 when a tracked vehicle which was running, sat next to the CAA fence unattended. If this scenario was an insider threat, our site is and was at risk. A retired DOE official from Oak Ridge once stated, "we don't get a second chance and we have allowed ourselves to be placed in a situation for failure." (Mr. Phelps).

Response 1:

The level of protection provided to assets in the Retro-Europe compound is determined by the tenant. The contention that the price given to Retro-Europe and DOE for protection was $238K, and the cost of protecting the Cooling Towers was only $77K, and therefore, the Union was "priced out" of the work does not recognize that pricing formulas vary. LMUS work and programs are projected at the base hourly rate since a wage and fringe percentage is added during the budgeting process for functions such as the Cooling Towers. On the other hand, the basic price is an hourly rate and an overhead rate to customers buying services from LMUS; this overhead rate covers wage and fringe, but additionally covers training, materials, medical insurance, sick leave, vacations, supervision, procedures, clerical support, and administrative costs needed to support the function. When the overhead is added, the cost for the same number of personnel escalates to ensure the Company's (LMUS) operating expenses are met.

Issue 8--cont.

Response 2:

Another concern voiced by UPGWA was the apparent failure of Retro-Europe to follow in-house procedures for disabling of operational track vehicles (see Attachment 1). The Ohio National Guard has recently re-issued its policy on operational track vehicles to all its supervisors and lead personnel to reinforce attention to the protective measures previously implemented.

IX. Issue 9: Search Procedures & Entry/Exit Procedures

Our union brought the concern of the entry and exit procedure to DOE in 1996. We also addressed the search policy. As of 1996, the search policy was put to rest due to the training update. However, our union's understanding is that on June 25, 1997, a security member from management was concerned because he/she could not locate a search policy--after OSS stated there was one in force a year ago. During our meeting January 6, 1998, the NRC Regional Director stated that our entry and exit procedures were fine. A letter, POEF-152-97-542, dated September 2, 1997, was issued, addressing the revised/new entry/exit procedures (See Attachment 1). The officers have not been formally retrained in these changes.

1) Who is responsible for entry and exit procedures?

At the direction of USEC, Paducah and Portsmouth developed a two-plant UE2 procedure that addresses entry and exit requirements for the facilities. Furthermore, PORTS extracted entry and exit requirements from these procedures that apply to PORTS and developed a site-specific XP2 procedure.

2) Who is responsible for the search policy?

The search policy is contained in the Physical Security Plan in the NRC Certification document.

3) Who is regulating both of the issues?

NRC. Also, please refer to responses to Issue 6, Questions 3 and 7.

4) Should there be training on both procedures?

No.

5) If yes, should the retraining be formal or a "read and sign"?

Formal training was conducted on the site-specific XP2 procedure. Subsequent to this training, changes to the UE2 procedure have been communicated through "read and sign" updates. Any UE2 changes that affect the XP2 procedure will be included in formal training.

Issue 9--cont.

6) If the NRC felt our entry and exit procedures were fine, why did they, three days later, send an NRC representative to try to enter our site and then later stated our entry requirements were unsatisfactory?

The NRC did not send a representative to PORTS "to try to enter our site." The NRC individual in question was the Paducah NRC resident who was visiting the PORTS site along with other NRC personnel. He arrived at the X-100 Lobby Portal, identified himself, and wanted immediate access, along with those accompanying him. However, he did not know his assigned call number, nor were the other individuals on the access list. The Protective Force Officer followed his access procedures correctly and was able to allow access. However, there was some delay in confirming the visitor's clearance level and whether or not he met the GET training requirements for PORTS. The reason for the concern of the NRC, other than the delayed entry, was that information regarding the visit was not immediately available to the portal officer. The reason for this was because the Security Visitor Control Office did not receive the information sent by the NRC. Normally, a letter from the NRC Administrative Management Branch Division of Resource Management and Administration is received at the General Manager's office which identifies the NRC individuals who have clearances and appropriate training, their NRC badge numbers, clearance levels, training expiration dates, and NRC Form 277 expiration dates. Letters such as this are forwarded to the NRA Office who sends a copy to the site training office. In the past, the Visitor Control Office received copies of these letters and added the names to the Continuous Visitor's List, which is at the portal for the Protective Force Officers to use. Security had not received any copies of NRC letters since May 1997, thus, the Continuous Visitor's List was not up-to-date. Since this incident, NRA has taken action to ensure the NRC letters get proper distribution.

X. Issue 10: Classified Security Checks Patrols

The commitment to conduct security checks on our patrols and classified security checks is to "ensure the areas are secured and only authorized personnel are present" and to "ensure no unauthorized activity is in the area." There are no limitations to the measure of discretion allowed to be used by the officers performing their task to keep up with the commitments that we have made to NRC and DOE. For our plant to achieve and maintain regulatory compliance without an immediate increase in required funding, we feel a true job task analysis needs to be conducted by DOE's standards which are taught through the CTA. The union feels there is only one individual that has the knowledge and skill to perform such a task (JTA). This goes hand-in-hand with the type of patrols that has been instituted.

1) What type of security check do DOE and NRC prefer to be conducted on our patrols and classified security checks?

The patrols and security checks of nuclear assets and classified matter storage areas currently required to be performed by PORTS Protective Force personnel are compliant with applicable DOE Orders or the provisions of the CMP, depending on the interest or area being addressed.

XI. Issue 11: NFS Shipments

Material leaving our site by way of commercial trucks to Erwin, Tennessee, represents a $6.1 million contract of work. Could that work have been conducted at our site?

During the performance test in the X-345 South Vault, an inappropriate TID was supposedly observed. This type of E-cup seal for a TID was declared by OSS as being inappropriate for safeguards due to the ability to remove the unnumbered side. The full 5-inch SNM cylinder was sent to Nuclear Fuel Services (NFS) for feeding was rejected. NFS applied this TID and returned it to PORTS for storage.

In the January 6 meeting, Mr. Bill Strunk stated that the material that is being shipped is at a level that the attractiveness level is not that high.

1) What is the attractiveness level for material being shipped?

Shipments can vary from Category I to IV material. Category I and II shipments are made on SSTs. Category III and IV shipments can go by commercial carrier.

2) What is the product that is leaving our site by way of commercial trucks to Erwin, Tennessee?

There are currently two main material streams leaving the X-345. One is refeed heels in cylinders and the other is mainly HEU trap material and tower/conversion ash. Commercial carriers are often used for Category III and IV material.

3) Could the work contracted with NFS have been performed at PORTS?

Not at the beginning of the program; however, some of the cylinder cleaning will be accomplished onsite beginning in March 1998 in the X-705 West Annex.

Issue 11 cont.:

4) In the meeting of January 6, USEC commented that the corporation must make a business decision. Please explain.

The business decision in this case was that in order to meet the schedule, part of the cylinders to be cleaned were sent to NFS because onsite facilities were not available. As noted above, a cylinder cleaning facility has been constructed in the X-705.

5) Is there a difference in making a business decision and the right thing to do?

6) What product is leaving by way of SST trucks?

Secure safe transport trucks are used for Category I and II materials and all other materials as deemed appropriate by DOE.

7) If someone was to carry the aforementioned cylinder out of the X-345 facility unauthorized, would the officer utilize deadly force policy for the theft of the cylinder?

The officer should respond with the level of force necessary to stop the action, up to and including deadly force, as prescribed in the deadly force policy.

8) The same cylinder was transported over the nation's highways by a commercial vehicle; why was it stored in the X-345 facility?

As noted in response to Issue 11, Question 1, commercial vehicles can transport Category III and IV material. The fact that a cylinder is stored in the X-345 does not mean the contents are necessarily Category I or II, which would require SST transport. The cylinder in question did not require SST transport.

Issue 11–cont.

9) Why was this cylinder shipped to NFS when it is protected under a Category I facility regulated by NRC?

The fact that a container is shipped to NFS does not necessarily mean the contents are Category I.

10) Are the shipments under DOE or NRC regulation?

Cylinder shipments under the current NFS contract are regulated by the NRC and DOE, and subject to DOT regulation once they have left plantsite.

11) Is the security plan under the NRC followed, or is the SSSP under DOE followed during the loading of the material at the X-345 facility?

X-345 operations are performed under the requirements of a DOE-approved and regulated security plan.

XII. Issue 12: Highly Enriched Uranium

We would like to have NRC's position on continuing efforts of refeeding HEU and the storage of HEU from other sites at PORTS in writing. We would also like to have, in writing, the names of those individuals (in addition to Hazel O'Leary) who are responsible for the decision of discontinuing HEU work. We would like to be copied on the cost analysis of combining the HEU at one site instead of allowing the President's initiative to be followed. (That initiative is to down-blend the HEU to LEU).

1) What would be NRC's position on the changes that would have to happen for refeed and storage of HEU to continue past the date that has been established?

2) Would the NRC be open to renegotiating the MOU for certification if there was HEU identified or the X-345 facility utilized for HEU above 10 percent assay?

3) Where is the 175 MT's of HEU in the United States and what is its form?

Please see Attachment 4, DOE report EH0525, "Highly Enriched Uranium Working Group Report," dated December 1996.

4) If DOE and USEC own commingled SNM in the storage array, the lease agreement between DOE and USEC allows for such a configuration and both parties have a combined interest in HEU for money reasons. Please comment.

Issue 12--cont.

5) Who are the individuals responsible for the decision of discontinuing the HEU work?

In regard to the decision to discontinue the production of HEU, we have attached a copy of a letter dated November 8, 1991, "HEU Production" from James D. Watkins to the Assistant Secretary for Nuclear Energy (see Attachment 5).

XIII. Issue 13: X-345*

Once the projects in the X-345 facility are terminated, we would like to have, in writing, the possible uses for the facility. Our union has been to Washington, D.C., to research opportunities and to market our facility. Personnel have been charged to find uses of buildings like our X-345. So far, these individuals have not been informed of the capabilities of the X-345. We would like a commitment from the partes involved that this "state of the art" facility can or could be utilized to store material.

1) Why was the second officer pulled from the X-345?

Following a revision in the adversary threat composition detailed in the DOE Design Basis Threat, a review of X-345 Protective Measures involving performance testing, procedural changes for off-shift access, and computer modeling, the second officer was removed from the X-345. These changes were made on off-shift hours only with the concurrence of DOE.

2) Now that the X-705 is not supported by patrols, has a second validation on the X-345 been completed?

The patrols assigned to the X-705 facility also provided protection for the X-345 facility. Following the downgrading of the X-705 to a Category IV area, one of the mobile patrols was eliminated, with response position coverage reassigned to other personnel, and resulting in single facility responsibility for the remaining mobile patrols. As a result, no degradation in X-345 protection was seen to result.

*Regarding future use of the X-345, DOE does not have a programmatic mission identified for the X-345 after HEU is removed from Portsmouth.

XIV. Issue 14: Sweep of X-705 & X-326

In a memo of November 17, 1994, a VA was completed relating to theft of HEU deposits remaining in the shut-down of the X-326. The finding, according to your Vulnerability Assessment (VA), was that significant quantities of HEU from the diffusion equipment will be detected. Furthermore the program is critical to support the decision to approve the reduction of safeguards categorization of the X-326 building.

Our union finds it disheartening that the deposit size may slightly exceed the previously-documented 350 grams of U^{235} level. LMUS stated it was "not perceived as a significant stumbling block...the hold-up is not believed to be an impediment to eventually reducing the level of the facility's safeguards."

There are 7,020 individual pieces of process equipment to be measured:

Phase I takes five minutes per piece.

Phase II consists of 15 minutes per piece.

Phase III will be evaluated by the remaining support equipment. During measurement, the analyzer is used to estimate deposits for the converter and piping contained within the enclosure.

1) Was a similar VA completed for the X-705?

The initial VA for the X-705 facility was completed in August 1995. The process was documented in POEF-SS-85, "Site Safeguards and Security Plan, Part II-C, Vulnerability Analysis Report for the X-705 Decontamination and Recovery Building (U)." This report, which was classified at the Confidential-NSI level, was part of the Master Safeguards and Security Agreement (MSSA) approved by DOE. No VA was completed concerning deposits in the X-705 facility. It was always believed that the X-705 facility did not contain enough hold-up of U^{235} in the form of UO^2F^2, enriched above 20 percent assay to present a safeguards problem or concern. In December 1996, USEC and LMUS conducted a confirmatory measurement project of the X-705 facility. Upon completion of the project, it was confirmed that a hold-up problem did not exist in the X-705. Additionally, no VA is required for DOE Category IV facilities. DOE Order 5632.2A, Section 10.b requires that Category IV quantities of SNM should be

Issue 14--cont.

received, used, processed, and stored in accordance with field-element approved security plans.

On April 25, 1997, DOE-ORO (PORTS field-element) approved POEF-151-96-1042, Rev. 1, "X-705 Security Plan." On April 27, 1997, LMUS, following guidance and approval from the field-element, implemented the

Category IV requirements in all leased and certified areas of the X-705 facility. The X-705E and X-705H non-leased areas contain Category III quantities of SNM. These non-leased areas remain fully alarmed, and access is controlled by the Protective Force and X-705 E-area custodian. All approved by the DOE field-element in accordance with DOE Order 5632.2A.

2) Was any VA completed on the X-705? If so, we would like a copy.

The initial VA for the X-705 facility was completed in August 1995.

The X-705 VA is classified as "Confidential-NSI," and a copy is located in the Site and Facilities Support Organization Office. Upon request, this document will be made available for review by the UPGWA.

3) In the X-326 building, is the significant amount of quantities mentioned in the VA defined the same way as Dr. Theodore Taylor defines in his review "Nuclear Theft"?

The parameters of the VA focused on the acquisition of a DOE Category I or II quantity of SNM, and followed old DOE guidelines regarding determination of risk.

4) Is there no way enough material can be removed by an individual–from the swept area–to be a risk to the public health and safety?

See #3 above.

Issue 14–cont.

5) How is it that OSS never received a VA on the X-705 or X-326?

DOE Order 5632.2A, Section 10.b requires that Category IV Material Balance Areas (MBAs) be protected in accordance with field-element approved security plans. Oak Ridge Operations is PORTS' field-element. Further, on February 13, 1997, members of DOE Headquarters, Oak Ridge Operations Office, and LMES, were provided an overview of the X-705 Confirmatory Measurement project. A tour of the X-705 facility was provided to allow the team to observe the actual measurement process. The measurement data confirmed that quantities of uranium enriched above 9.99 weight percent U^{235} in leased and certified areas of the X-705 facility have been reduced to acceptable levels.

6) Why didn't the level of signing off on the X-705 never go past Oak Ridge Operations?

See #5 above.

7) Does any manual, lessons learned, or education on sweeps of the MAAs in the DOE facilities exist?

DOE Order 5632.2A provides guidance on categorization of MAAs and Protected Areas (PAs). Confirmatory measurement projects are conducted to confirm the amount and assay of material to ensure proper categorization of DOE facilities. At present, no manuals exist on conducting sweeps. Lessons learned were reviewed with LMES Oak Ridge, which has had experience in downgrading K-25 (a gaseous diffusion plant). Concerning education, USEC and LMUS have contracted to Pinkerton Government Services, Inc., whose personnel have extensive applied nuclear technology experience, and in some cases, those conducting the confirmatory measurement project were instrumental in developing and testing much of the instrumentation used in the confirmatory measurement process.

Issue 14--cont.

8) Is D&D the only way to ensure no HEU is in the system in the facility after refeed is complete?

Decontamination and decommissioning would ensure all deposits are removed. There could, and probably would be situations where material is embedded in the machinery, piping, and/or concrete. LMUS, at the direction of DOE, conducted an extensive cell treatment program to remove HEU from the cascade and lessen the hold-up concern.

9) What are the impacts of the revised consequences of loss values and methods to verify the accuracy of the non-destructive assay measurements?

Consequences of loss values are part of the SSSP process. At present, PORTS is operating under the DOE-approved 1996 SSSP. Per correspondence from LMES, LMES-1127-97-418, PORTS has been granted approval from the DOE Office of Safeguards and Security to operate under the current SSSP until all Category I and II material has been dispositioned, refed to the cascade or down-blended prior to the implementation of reduced security requirements at facilities formerly containing Category I material. A site survey will be required to ensure the removal of Category I and II material. At that time, the current consequences of loss values will be used to assist in ascertaining the appropriate security posture for the facility.

Non-destructive assay (NDA) measurements are taken only after calibration utilizing certified laboratory standards. Both NDA and wet chemistry analysis have margins of error. The NDA analysis, in most cases, has a larger margin of error, but it must be understood that no one can take laboratory analysis of a buffered cascade without destroying/removing the buffering. Therefore, NDA measurements are the best-known measurements on material in a buffered cascade.

Issue 14--cont.

10) Are all parties and regulators comfortable with LMUS' statement, "not perceived as a significant stumbling block...the hold-up is not believed to be an impediment to eventually reducing the level of the facility's safeguards"?

In August 1995, the VA for the X-326 facility touched on hold-up and the removal of the X-326 fencing. At that time, it was determined that the risk to employees would remain low for sabotage of hold-up in cells by outsiders if the PA/MAA were removed or not used. As part of the overall downgrading project, LMUS, through DOE, will develop security plans based on the final outcome of material remaining in the X-326 following completion of the X-326 Confirmatory Measurement Project.

11) How is the hold-up issue identified and how is quantification of the deposits and the long-term protection of the hold-up being accomplished?

Hold-up in the cascade is based upon confirmatory measurement surveys. These surveys are conducted to ensure all uranium above 9.99 weight percent U^{235} is identified. A completed confirmatory measurement survey consists of four documented volumes as follows:

a. Volume I, entitled "Gamma Radiation Sweep," lists all areas of the facility that were scanned and shows the background readings, as well as the actual readings taken. Additionally, prints of the facility piping, equipment, and materials, are provided to assist in identifying the locations of the deposits that were found.

b. Volume II, entitled "U^{235} Enrichment Measurements," lists all enrichments that were performed to verify enrichment levels.

c. Volume III, entitled "Uranium Quantitative Measurements," identifies the items with U^{235} enrichment above 10 weight percent.

d. Volume IV, entitled "Disposition of Accessible Items Above 10 Weight Percent U^{235} Enrichment," explains how each accessible item containing U^{235} Enrichment above 10 weight percent was accounted for and dispositioned.

Issue 14--cont.

Long-term protection, be it for a particular building or the entire facility, will be based upon the final results of the Confirmatory Measurement Surveys, in accordance with DOE Orders.

12) If the long-term protection issue has not been addressed yet, when will it be addressed? Will the union be involved with the strategic plan for long-term protection?

The long-term protection strategy is to reduce DOE interest to a Category IV facility. This has been achieved at the X-705 facility, and it is DOE's intent to reduce the X-345 facility to a DOE Category IV facility. The only unknown is that of the material categorization of the X-326 facility. The X-326 facility presents many challenges, some of which must be overcome prior to final categorization of the facility. The Confirmatory Measurement Survey will clarify many areas of the facility, as well as define the hold-up (if any). The Union will be advised as the downgrading process moves forward.

13) What is the cost-benefit summary for reduction of security to support HEU refeed?

To fully explain the cost-benefit summary, one must understand the current staffing requirements, some of which are classified. While this explanation will be of an unclassified nature, it still provides enough information to understand the essentials of the process. At present, there are 66.0 FTEs allotted for coverage of all X-326 security (this does not represent the Confirmatory Measurement Project). All 66.0 FTEs receive 2.5 hours pre- and post-pay.
Additionally, all 66 receive 3.0 hours physical fitness pay (weekly), all of which must be added to the cost. LMUS then adds an overhead rate for services and a percentage for benefits. All this makes up the total cost of an SPO, sold to DOE, on an annual basis.

The cost break-down is as follows:

a. 66 FTEs X 3 (physical fitness) = 198 hours
66 FTEs X 2.5 (pre- & post-activities) = 165 hours

b. 198 hours + 165 hours = 363 hours weekly X 52 weeks = 18,876 hours (annually for pre- and post-activities and physical fitness)

Issue 14--cont.

c. 2080 hours per year X 66 =107,052 hours per year

d. 107,052 hours
18,876 hours
125,928 total hours

e. 125,928 total hours
X $55 average cost per hour
$6,926,040 annual cost per year

Knowing that the number of SPOs in the future is based on the results of the Confirmatory Measurement Survey, the following speculation is made. Five to 17 SPOs may be required to provide the necessary security. For the purpose of this cost-benefit summary, the number 17 will be used; this will provide the worst case scenario.

a. 17 FTEs X 3 physical fitness = 51 hours
17 FTEs X 2.5 pre- and & post-activities = 42.5 hours

b. 51 hours + 42.5 hours = 93.5 hours weekly X 52 weeks = 4,862 hours annually for pre- & post-activities and physical fitness

c. 1622 hours per year X 17 FTEs = 27,574 hours

d. 27,574 hours
4,862 hours
32,436 total hours

e. 22,436 total hours
X $55 average cost per hour
$1,783,980 annual cost per year

When you take the current cost	$6,926,040
Minus the proposed cost	-1,783,980
Cost-benefit summary	$5,142,060

It must be noted that the $5 million in savings will be increased because of alarm maintenance reductions, and material costs.

Issue 14--cont.

14) Who else has experience in downgrading MAAs and PAs to lower levels of protection? Do you have observations form these sites?

Oak Ridge and Rocky Flats both have experience downgrading MAAs. Oak Ridge (gaseous diffusion plant) was used extensively to ensure the material in our facilities was properly accounted for, and that mistakes made there were not made here. The similarities between the two facilities make it imperative that information be shared. The individuals conducting the confirmatory measurements at Portsmouth are the same individuals who conducted the process at Oak Ridge.

15) Is there indeed an uncertainty for measurement?

All measurements have some uncertainty. Wet chemistry analysis, though the most accurate, still has an uncertainty associated with it. NDA measurements have a greater uncertainty, but NDA measurements are the only type of measurements which can be taken on a buffered cascade (until the equipment is removed from the cascade). For that reason, NDA measurements provide the best known value for the material.

16) Does the deposit measurement depend on the placement of the detector?

Yes, in performing quantitative measurements, the detector is positioned geometrically in relation to the location of the deposit.

17) Do uncertainties in calibration, material composition, and the chemical form exist?

There is a small margin of error in calibration. That small error rate is maintained because laboratory-certified standards are used in performing calibration.

The material removed from the cascade is either UF_6, or, if exposed to atmospheric moisture, UO_2F_2. So, in the X-326, the material composition has no uncertainty because the buffering was done to ensure the material remains as UF_6.

Issue 14--cont.

18) How is the correct protection level determined without lessons learned documentation and manuals on sweeps?

The correct protection level is determined by using measurement data and applying the data to DOE Order 5633.3A, which dictates the security requirements.

19) How was the X-705 downsized without the necessary information?

The X-705 was downsized with the necessary data to support its categorization as a Category IV facility.

20) Were the officers involved in the X-705 sweep instructed never to utilize metal detectors for shielding? Is this the process now?

The X-705 Confirmatory Measurement Survey did not require the use of metal detectors. The current Confirmatory Measurement Survey at the X-326 facility does require the use of metal detectors.

21) Why was there a change in the procedure to utilize hand-held metal detectors?

When the X-326 Confirmatory Measurement Project was first started, metal detectors were not used. The decision to use the metal detectors was based solely on the large amount of equipment being moved through the facility and the CAA boundary. At the X-705, this was never a concern, but, since this is an evolving process, it was determined that, based upon the amount of material moving through the boundary, metal detectors should be used.

22) If hand-held metal detectors are needed then why is the X-705 sweep not in question and part of the X-326 sweep not questionable?

The decision was based on the amount of material crossing the boundary at the X-326 and the X-705. There were fewer instances of material and equipment crossing the boundary.

Issue 14--cont.

23) Is there a hold-up issue in the X-705?

There is no hold-up issue in the X-705. There were no significant material deposits founds in the X-705 facility. These conclusions are based upon measurement data included in the X-705 Confirmatory Measurement Survey.

24) Is there a hold-up issue in the X-326?

The hold-up issue cannot be fully addressed until the data on the X-326 Confirmatory Measurement Survey is available for review. Based upon current data from the project to date, no significant hold-up concerns are present.

XV. Issue 15: The Issue of the Map of Lease Status

We share in the concern that the areas of protection and concern for DOE is so spread out that the protection level is suspect.

1) How are DOE and NRC going to come together on this area of protection?

DOE protection levels are identified in the SSSP. NRC requirements are addressed in the Certification document.

XVI. Issue 16: Observations

1) Why wasn't the DOE Protective Force not on alert during the recent and continuing adversarial situation in the Middle East?

The Protective Force at PORTS was not put on a heightened awareness due to the fact that both DOE and USEC did not direct the facilities to do so.

2) Why aren't SPOs presented with monthly security briefings concerning us and foreign threats to DOE and similar industrial facilities?

Relevant threat information relating to plant protection concerns has historically been provided to Protective Force Officers upon receipt. We intend to continue this practice.

3) Why doesn't the NRC increase the level of concern for the threats that loom over facilities as LEU and with the presence of HEU on their site?

To date, no additional or higher threat level has been identified for LEU. The protection level for HEU onsite is governed by DOE.

4) Why are PORTS SPOs II personnel engaging in SPO III operations (search and clear of buildings--reference X-326) with no training?

Per DOE Order 5632.7A, SPO II Offensive Officers are required to respond to the incident and are trained to do room clearing and building sweeps.

5) Why is the perimeter fence left virtually unprotected (exterior)?

The perimeter fence (or CAA fence) is protected at the level required for such a boundary by both the DOE and the NRC. The referenced fence barrier serves as the first in a series of concentric levels of protection afforded for site interests. Depending on the specific interest, some are provided additional layers of protection, while others are not. This protection philosophy is seen as being consistent with the expectations of both DOE and the NRC for their regulated interests at the site.

Issue 16--cont.

6) Why are nuclear shipments performed without area purges or the manning of high-ground positions?

Inner-plant shipment procedure XP3-SS-SP8106, Section 6.5.11, addresses the issue concerning purging the route. This is conducted before the shipment occurs. Section 6.9.25 of the same procedures identifies placing an officer in a high-ground position.

7) What is the mission statement for SPO II offensive?

The mission of the SPO II Offensive is to protect DOE and USEC security interests from theft, sabotage, and other hostile acts that may cause adverse impact on national security or the health and safety of the public; and to protect life and property, as defined in CFR Part 1047, applicable portions of 10 CFR 73, at DOE facilities. Additionally, 10 CFR 76 and the ROA for USEC interest and leased facilities.

8) How can the X-326 and X-705 MAA sweep personnel not be considered appropriate candidates for DOE's PSAP? DOE 5631.35 states that direct access to Category I quantities of SNM occupy PSAP positions.

DOE Order 5631.6A, "Personnel Security Assurance Program," at Section 8a states "that afford direct access to Category I quantities of SNM or have direct responsibility for transportation or protection of Category I quantities of SNM." This means the individuals must have access, transport, or protect Category I quantities of SNM. In neither facility (X-705 nor X-326) did personnel, nor do they now have access to Category I material. At no time have the individuals performing hold-up measurements been required to be in the PSAP program based on the current Order requirements.

ATTACHMENT 1

United Plant Guard Workers of America (UPGWA)

Local 66

P.O. Box 1020, Piketon, Ohio 45661

Mr. Jim Morgan
Acting Plant Manager
Lockheed Martin Utility Services; Inc.
P.O. Box 628
Piketon, Ohio 45661

January 14, 1997

Dear Mr. Morgan:

I would like to thank you for meeting with our union on January 6, 1997. We feel this meeting was productive and assisted us in proceeding to inform our membership in a responsible fashion. As committed to Mr. McCallum, we are submitting to you the list of concerns and questions that were addressed on January 6, 1997 for comments in writing.

FIREARMS TRAINING

Our management has been forced into a position that the budget and manpower for the training department has dictated the amount of training for firearms. (Actual firing of the weapons) What training should accomplish, is to give the employee the opportunity to identify and correct errors made. And if the officer determines that those errors are not correctable, then the officer must understand the consequences. If the consequences are major, then decide what immediate alternative sanctions can be accomplished. For this to occur, training is essential. Explain why our site has evolved to firing our service weapons for qualification purposes only? We would request additional funds and time to allow for rehearsal opportunities prior to qualifications. We reference the Quality Panel meeting dealing with SRS concern of increasing the size of the head shot so officers could be more accurate. The answer, DOE expects an officer to learn during his or her training experience so accuracy is accomplished.

The protective force structure, coupled with Design Basis Threat requirements, has created an increase training requirements but decreased availability. Why has this been allowed to happen at the Portsmouth site? We have enclosed a copy of the training that is listed that officers receive. Please take the time to match the actual training received to this list. The problem is funding and manpower. We have created a force that

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is not receiving new developed training nor training that we have had in the past.

UNANNOUNCED AUDITS

During the April 28- May 9, 1997 audit; the auditor for protective force met with our union officials. His comments to us were troubling at best. His reference to the armorer position on site; "how does he complete the task of the armorer position certifying and processing weapons? Plus manage the training section for the protective force?" " There has to be deficiencies." Then the auditor went on to state; "I found everything to be in order". "I (auditor) am retired and this side job keeps me traveling and piddling in some type of audit business. I was reminded that our officers do not take our job as "piddling". with this type of performance and attitude explain why the auditor would not document his feelings to us in writing in the final report? Why is an auditor of this type allowed to perform an audit? Why does DOE continue to notify sites of announced audits? Management continues to increase the amount of manpower (overtime) for these types of audits. On June 23-27, 1997 a security evaluation was conducted. Why was the audit team allowed to have former employees of our site to perform these security evaluations?

OFFENSIVE SPO'S V. SRT

There is non-existent training for offensive/SRT officers. Statements have been made by upper management that there was a buy into "no need for SRT." If this is true, does DOE orders state that when CAT I is present should there be a SRT team assembled? Our meaning is a protection level to keep the product safe from adversary control? Is it not in the best interest for public safety and health as well as to the employees well being and the nation's nuclear assets to have an SRT? Offensive team trained and a presence on site? Reference "Nuclear Theft: Risks and Safeguards " written by Mason Willrich and Theodore B. Taylor. An individual only needs a small amount of time to barricade in a facility as ours to wreck havoc and place the public in danger as well as the nations assets. NOTE: Our MOU for local law enforcement agencies (LLEA) to respond to our site for mutual aide would be a mute point due to our

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surroundings and the lack of manpower and experience that the LLEA has.

CHEMICAL BIOLOGICAL WEAPONS

Emerging threats include credible scenarios for terrorist use of weapons of mass destruction. (Chemical/Biological). Why has the Portsmouth site ignored and not placed in policy for the "Implementation of Chemical/Biological weapons (CBW) Protection"? The policy is from the Office of Safeguards and Security May 24, 1996. We are requesting first responder training for our force.

TOXILOGICAL SABOTAGE

What is the affect on the leased USEC buildings? Our understanding is there is no resolution to the risk for substances on our site. There has been risk identified however, the risk has gone unanswered. Can you explain? During the meeting on January 6, 1997 Ms. Ten Eyck; NRC stated that a chemical safety audit is in process for the week of January 5, 1998. We would like to be copied on the findings and recommendations. Additionally, Bern Stapelton; USEC stated there are studies out there and he would get back with us referencing the subject of chemicals and sabotage. Please understand we are addressing this for two reasons; the public health and safety and security concerns.

RESPONSIBILITIES/JURISDICTION

Who is responsible for the boundary? Who is responsible for the perimeter road? Who makes sure there is protection for these areas? Who is responsible for the limited fence (CAA)? We gave a scenario during our meeting explaining an individual drives through the fence and enters the limited area. He proceeds to drive to the opposite end of the facility. The individual is apprehended by a security officer. Notifies headquarters (supervision). Understand the generic threat and design basis threat. There is to be SNM shipment from one area to another inside our facility. With in 20 to 25 minutes later the shipment occurs. Our commander is ordered to allow for the

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shipment to occur against his professional judgement. (Production first) What is the proper procedure to address this scenario? Who is responsible for the decisions during this scenario? Additionally, a comment from the NRC stated that the fence line scenario given was "a mute point". Please explain this answer.

PROTECTION OF HEU CAT I AND II

Prior to NRC becoming our regulator, DOE maintained that there needed to be sufficient barriers in place to delay entry into our facility. We observe that the transition between DOE and USEC that this barrier is not being utilized at the level it needs to be. If it is true that DOE and USEC are sharing services for protection then how is DOE allowing for a barrier as the CAA fence to be "a mute point"? How will this transition be addressed after our concerns were given on January 6, 1998?

RETRO-EUROPE

This concern has been brought to the attention of all parties participating in our meeting. In 1996 Mr. McFadden showed concern when our union presented pictures of the types of vehicles being stored in the compound and not protected. We feel this compound unguarded and not controlled during the day is a risk to the material as well as the public safety. When Office of Safeguards & Security (OSS) brought the concern to our site, the contractor quoted a figure to protect the facility. We sighted the example of the amount of FTE's to perform this protection as one in the same for the Cooling Tower jobs. For the Cooling Tower jobs our union was told it was a $77,000 dollar project for security. However, the quote to perform the work for Retro-Europe the price was $238,000. This inflation of cost in our view priced our union out of work plus placed the facility and the public interest at risk. Our union then was told by Edward MCCallum Director of OSS (Enclosed)... "the issue has been worked without your knowledge..." "Security measures and mechanical steps that were implemented to render all operational vehicles incapable of being utilized for non-authorized purposes." Our union feels this was not enough due to the incident in October 1997 when a tracked vehicle sat next to the CAA fence running after all individuals from the Retro-Europe were gone. If this scenario was an insider threat our site is and was at risk. Please remember a retired DOE

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official from Oak Ridge Stated; "we don't get a second chance and we have allowed ourselves to be placed in a situation for failure." (Mr. Phillips)

SEARCH PROCEDURES & ENTRY EXIT PROCEDURES

Who is responsible for the entry and exit procedures? Who is responsible for the search policy? Who is regulating both of the issues? Should there be training on both procedures? If yes should the training be formal or read and sign?
Understand that our union brought the concern of the entry and exit procedure to DOE in 1996. We also addressed the search policy. As of 1996 the search policy was put to rest due to the training update. However, our union's understanding is that on June 25, 1997 a security member from management brought a concern that they could not put warm hands on a search policy. Even after OSS stated that there was one in force a year ago. During our meeting January 6, 1998 the NRC Regional Director stated that our entry and exit procedures are fine. Please explain why three days later an NRC personnel try to enter our site and was not satisfied with the entry requirements? In fact there was a security staff meeting addressing this issue. Please refer to our training records dealing with entry and exit procedure. A letter POEF-152-97-542 dated September 2, 1997 speaks to the revision and new procedures. You will notice that officers have not been formally trained in this area since the changes. Apparently there is confusion on the part of our members as well as the regulator and management if we are still struggling with exceptions.

CLASSIFIED SECURITY CHECKS PATROLS

What type of security check does DOE and NRC like conducted on our patrols and classified security checks? The commitment is"will assure the areas are secured and only authorized personnel are present". Commitment "to assure no unauthorized activity is in the area." There is limited to no measure of discretion allowed to be used by the officers performing their task to keep with the commitments that we have made to NRC and DOE. For our plant to achieve and maintain regulatory compliance without an immediate increase in required funding, we feel a true job task analysis needs to be conducted

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by DOE's standards which are taught through the CTA. The union feels there is only one individual that has the knowledge and skill to perform such a task (JTA). This goes hand and hand with the type of patrols that has been instituted.

NFS SHIPMENTS

What is the product that is leaving our site by way of commercial trucks to Erwin, Tennessee? What product is leaving by way of SST trucks? The material leaving referencing the 6.1 million dollar contract to Erwin, Tennessee; is it not true that our site has and could of conducted the same process at our site? In the meeting January 6, 1998, USEC made the comment that the corporation must make a business decision. Please explain. Also explain if there is a difference in making a business decision and the right thing to do?

Is it not true that during the performance test in the X345 South Vault, an inappropriate TID (an 3/4 inch E-Cup seal with the seal number on one side) was observed? This type of E-Cup seal for an TID was declared by OSS as being inappropriate for safeguards due to the ability to remove the unnumbered side. The container is a full 5-inch SNM cylinder. Apparently, the cylinder was sent to Nuclear Fuel Services for feeding and was rejected. NFS applied this TID and returned to PORTS and it was placed in storage.

If someone was to carry this cylinder out of the X345 facility unauthorized, would the officer utilize deadly force policy for the theft of the cylinder? The same cylinder that was transported over the nations highways by a commercial vehicle? Why is this cylinder stored in the X345 facility? And why when this cylinder is shipped to NFS it is protected under a CAT I facility regulated by NRC?

Is the shipments under DOE or NRC regulation? Also is the security plan under NRC followed or is the SSSP under DOE followed during the loading of the material at the X345 facility? During our January 6, 1998 meeting Mr. Strunk stated that the material that is being shipped is at a level that the attractiveness level is not that high. Please explain what the attractiveness level is for the material being shipped?

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HIGHLY ENRICHED URANIUM

We would like to have in writing NRC's position on Portsmouth site on continuing efforts of refeeding HEU and the storage of HEU from other sites. What would be the changes that would have to happen for this effort to continue past the date that has been established? Would NRC be open to renegotiating the MOU for certification if there was HEU identified or the X345 facility utilized for HEU above 10% assay was to happen?

Our union would like to have in writing the individuals who are responsible for the decision of discontinuing the HEU work. NOTE: Please don't tell us it was Hazel O'Leary. We know that other parties had input to this decision. We also would like to be copied on the cost analysis of combining the HEU at one site instead of allowing the President's initiative to be followed out. That initiative is to down blend the HEU to LEU.

Our union has identified that there is 175 MT's of HEU in the United States. Can you copy us on the 175MT's of HEU where it is located and its form ?

We have knowledge that various storage areas, DOE-owned and USEC-owned SNM are commingled in the storage array. These materials are controlled and accounted for following DOE requirements. If this is true and the lease agreement between DOE and USEC allows for such a configuration then both parties do have a combine interest in the HEU for money reasons. So our feeling is the security interest should be shared by both. Please comment.

X345

We would appreciate that all parties give us in writing the possible uses for the X345 facility after the stated projects are terminated. Our union has been to Washington, D.C. to research opportunities and market our facility. In fact there is personnel who has been charged to find uses of buildings like our X345. When we approached the personnel they had no clue to what we have and the thought process has not been started. We feel this is unacceptable. We would like a commitment from the parties at the table that the X345 building can or could be utilized to store material that would need the state of the art facility as the X345.

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Our union also questions the validation to the second officer being pulled from the X345. The one answer that management hung their hat on was there was additional patrols that supported the X705. Now that the X705 is not supported by the patrols; was there a second validation completed on the X345 when the X705 was down graded?

SWEEP OF X705 & X326

MEMO November 17, 1994 a VA was completed relating to theft of HEU deposits remaining in the shut down of the X326. The finding according to your VA was that significant quantities of HEU from the diffusion equipment will be detected. And further more the program is critical to support the decision to approve the reduction of safeguards categorization of the X326 building.

Was this same VA completed for the X705? Was there any VA completed on the X705? We would like to be copied. Additionally, during the January 6, 1998 meeting Mr. Tom Bonner stated he would not answer this question in the arena we were in. We are requesting a meeting with him so he can explain his answer. In the X326 building, is the significant amount of quantities mentioned in the VA defined the same way as Dr. Theodore Taylor defines in his review "Nuclear Theft"? (250g) Or is the word significant defined that there is no way enough material for an individual to remove HEU from the swept area to be a risk to the public health and safety?

Additionally, there is real concern with the assurance of risk associated with having weapons grade uranium in a CAT IV facility even after the sweep job is completed. How is it the OSS never received a VA on the X705 or the X326? We were told in the meeting that the level of signing off on the X705 never went passed Oak Ridge operations. Why? Is there not any manual or lessons learn or education on sweeps of the MAA's in the DOE facilities?

The only way to definitely make sure that there is no HEU in the system after the refeed is completed is to D&D the facility ? What is the impacts of the revised consequences of loss values and methods to verify the accuracy of the non-destructive assay measurements?

United Plant Guard Workers of America (UPGWA)

International Union, United Plant Guard Workers of America (UPGWA)

Local 66

P.O. Box 1020, Piketon, Ohio 45661

Our union finds it disheartening that the deposit size may slightly exceed the previous documented 350 grams of U235 level. LMUS stated it was "not perceived as a significant stumbling block... the hold up is NOT BELIEVED to be an impediment to eventually reducing the level of the facilities safeguards. Has all parties and regulators comfortable with this?

Hold up issue; How is it identified and quantification of the deposits and the long term protection of the hold up being accomplished? If the long term protection issue has not been addressed yet when will it be addressed? And will the union be involved with the strategic plan for long term protection?

What is the cost benefit summary for reduction of security to support HEU refeed?

Who else has experience in downgrading MAA and PA's to lower levels of protection? Do you have observations from these sites?

There is 7,020 individual pieces of process equipment to be measured:

Phase I takes 5 minutes per piece.
Phase II consist of 15 minutes per piece.
Phase III will be evaluated by the remaining support equipment. During measurement the analyzer is used to estimate deposits for the converter and piping contained within the enclosure. Is there in deed an uncertainty for measurement? Deposit measurement depends on the placement of the detector, is this true? Calibration uncertainty and finally uncertainty in the material composition and the chemical form; is this true? With all of the uncertainty how are the agencies going to make sure that there is the correct protection level without lessons learn documentation and manuals on sweeps? How was the X705 downsized without the necessary information?

Is it true that the X705 sweep the officers never were to utilize the metal detectors for shielding? Was this process of metal detectors utilized for the X326 sweep which is in process now? Why was there a change in the procedure to utilize the hand held metal detectors? And if hand held metal detectors are needed then why is the X705 sweep not in question and the part of the X326 sweep not questionable?

United Plant Guard Workers of America (UPGWA)

Local 66

P.O. Box 1020, Piketon, Ohio 45661

Is there a hold up issue in the X705? Is there a hold up issue in the X326?

THE ISSUE OF THE MAP OF LEASE STATUS

We share in the concern that the areas of protection and concern for DOE is so spread out that the protection level is suspect. Share with us how DOE and NRC are going to come together on this issue of protection.

OBSERVATIONS

Why wasn't DOE protective forces not on alert during the recent and continuing adversarial situation in the Middle East?

Why aren't SPO's presented with monthly security briefings concerning US and foreign threats to DOE and like industrial facilities?

Why doesn;t the NRC increase the level of concern for the threats that loom over facilities as LEU and with the presence of HEU on their site?

Why are PORTS SPO's II personnel engaging in SPO III operations (search and clear of buildings--reference X326) with no training?

Why is the perimeter fence left virtually unprotected (exterior)?

Why are nuclear shipments performed without area purges or the manning of high ground positions?

What is the mission statement for SPO'II offensive?

How can the X326 and X705 MAA sweep personnel not be considered appropriate candidates for DOE's PSAP? DOE 5631.35 states that direct access to Category I quantities of SNM occupy PSAP positions.

Mr.Morgan once again we appreciate the time an effort that your staff gave to us on January 6, 1998. If there are any questions please don't hesitate to contact Tom Douglas,

United Plant Guard Workers of America (UPGWA)

Local 66

P.O. Box 1020, Piketon, Ohio 45661

John K. Haberthy or Jon Gahm for explanation. We hope to hear from you January 31, 1997.

Sincerely,

John K. Haberthy
International Representative
Deputy Director DOE/NRC

cc: Edward McCallum; DOE
Elizabeth Ten Eyck; NRC
John Adams; USEC
Tom Douglas; UPGWA
Jon Gahm; UPGWA
Gerry Hartlage; UPGWA
file

Department of Energy
Washington, DC 20585

DEC 26 1996

Mr. John K. Haberthy
Deputy Director of DOE and NRC
United Plant Guard Workers of America
Local 66
P.O. Box 1020
Piketon, Ohio 45661

SUBJECT: PORTSMOUTH SITE ISSUES

Dear Mr. Haberthy:

Thank you for the opportunity to respond to your letter of November 21, 1996, to George L. McFadden, Director, Office of Security Affairs (OSA), regarding the above subject. Your letter addresses three issues, and I would like to address them individually.

1. Site Audit Issue.

The Department of Energy (DOE)/Oak Ridge Operations Office (OR) has scheduled a site safeguards and security (S&S) survey at the Portsmouth facility for April 1997. OR has previously reviewed the Entry and Exit Quality Assurance findings and the 26 items of concern compiled by the union, and has agreed to readdress these issues during the conduct of the survey.

2. Security Incident Issue.

The extent of the Human Resource Department involvement encompasses only reviewing the security infractions in order to ensure that any disciplinary actions issued are appropriate according to the severity of the incident, not the validity of the infraction. The validity of any infraction is reviewed by site line management prior to issuance. OSS was also advised that the site has implemented measures to address incidents observed during post operating activities by establishing a system of operational security infractions. These "security infractions" are apparently utilized by the Portsmouth site to address performance compliance with site or post S&S procedures. The term "security infraction" is normally associated with a mishandling of classified material. Using this term as a method for corrective action may cause unnecessary confusion with the Department's security violation program. You may wish to consider meeting with site management to discuss the possibility of revising the terminology to something other than "security infraction," to differentiate between the two different types of incidents.

DEC 26 1996

3. Tracked Vehicles Concern.

As you indicated, this issue has been worked without your knowledge. This has been done to keep information on specific measures limited to those with an official need-to-know. A Memorandum of Agreement (MOA) between the Portsmouth site and the Ohio National Guard (ONG), dated May 31, 1994, specifies security measures and mechanical steps that were implemented to render all operational vehicles incapable of being utilized for non-authorized purposes.

OSS will continue to work with the United Plant Guard Workers of America to ensure that the mutual best interests of the protective force and the Department are being met. Please contact Glenn Bowser, of my staff, at (301) 903-5693, if you have any questions concerning this matter.

Sincerely,

Edward J. McCallum
Director
Office of Safeguards and Security

cc:
E. McConville, UPGWA

Department of Energy
Germantown, MD 20874-1290

February 20, 1998

MEMORANDUM FOR: Eugene W. Gillespie
Site Manager
Portsmouth Site Office

FROM: Barbara R. Stone, Director, EH-21

SUBJECT: UPGWA Concerns

We recently received your memorandum of February 2, 1998, and the attached copy of UPGWA concerns. As previously discussed in your January 29, 1998, teleconference with Jim Taylor of this office, there is one particular issue raised by the UPGWA that is directly relevant to this office. Specifically, the list of UPGWA concerns included, under the heading of "UNANNOUNCED AUDITS," a question concerning the inclusion of former Portsmouth employees as members of the June 23-27, 1997, "audit" team. The question implies that this constituted an impropriety on our part, although no formal assertion to that effect is made by the UPGWA. We believe, however, that even an implied impropriety warrants a response.

There are two major points that we believe must be made in connection with the UPGWA's question. First, the activity conducted by the Office of Security Evaluations (SE) at Portsmouth during June 1997, was not an "audit" or an evaluation. It was instead a Site Profile, one in a series of studies conducted during 1997 by our office at major facilities throughout the DOE complex. These Site Profiles were undertaken in response to an initiative from the Secretary of Energy and designed to develop and present current and accurate characterizations of the safeguards and security programs at these various facilities. Thus, there could be no "conflict of interest" associated with any of these profiles, since the profiles deliberately eschewed formal qualitative judgments.

The second point, however, is even more fundamental. Of the former Portsmouth employees who participated in the Portsmouth Site Profile, none are recent employees. The most recent date on that any of the four worked at Portsmouth was approximately seven years ago. This is a period of separation which far exceeds the customary standards of either government service or private industry. Further, the Office of Oversight has a formal process for inspection activities that includes an analysis of each individual's work history to verify that they could have no biases that would affect their judgment. This process considers the time period since individuals have worked at a site. It also ensures that individuals are not reviewing work they have been responsible for in the past. Considering the major changes in management and

requirements (e.g., transition to NRC regulation) that have occurred in the seven years since SE contractors were Portsmouth employees, we concluded that using these individuals involved no conflict of interest concerns.

We are always sensitive to questions of conflict of interest and careful to avoid even the perception of such conflicts. In this instance, the implication of a conflict of interest is baseless.

Barbara R. Stone

Barbara R. Stone, Director
Office of Security Evaluations
Office of Oversight
Environment, Safety and Health

cc:
G. Podonsky, EH-2

ATTACHMENT 3
Enc. No. X/1-506

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 17, 1998

Mr. J. H. Miller
Vice President - Production
United States Enrichment Corporation
Two Democracy Center
6903 Rockledge Drive
Bethesda, MD 20817

SUBJECT: NRC INSPECTION REPORT 70-7002/98-201

Dear Mr. Miller:

This refers to the chemical process safety inspection conducted from January 5-9, 1998, at the Portsmouth Gaseous Diffusion Plant. The purpose of the inspection was to determine the effectiveness of the facility's chemical process safety program. At the conclusion of the inspection, the findings were discussed with senior members of plant management.

Areas reviewed during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of facility walk through, selective examinations of procedures and records, interviews with personnel, and observations. Based on the results of this inspection, no violations of NRC requirements were identified.

In accordance with the NRC's "Rules of Practices," a copy of this letter and its enclosure will be placed in the appropriate NRC Public Document Room. Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

Philip Ting, Chief
Operations Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS

Docket 70-7002

Enclosure: As stated

cc w/enclosure:
D. I. Allen, Portsmouth General Manager
R. W. Gaston, Portsmouth Regulatory Affairs Manager
S. A. Polston, Paducah General Manager
W. E. Sykes, Paducah Regulatory Affairs Manager
R. M. De Vault, DOE

9802246391 2PP

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

Inspection Report No.	70-7002/98-201
Docket No.	70-7002
Facility Name:	Portsmouth Gaseous Diffusion Plant
Observations at:	Piketon, OH
Inspection Conducted:	January 5-9, 1998
Inspector:	Garrett Smith, FCOB Albert Wong, FCOB
Approved By:	Philip Ting, Chief Operations Branch Division of Fuel Cycle Safety and Safeguards, NMSS

EXECUTIVE SUMMARY

PORTSMOUTH GASEOUS DIFFUSION PLANT
NRC INSPECTION REPORT
70-7002/98-201

Introduction

NRC performed a routine, unannounced chemical process safety inspection of the U.S. Enrichment Corporation (USEC) Portsmouth Gaseous Diffusion Plant (PORTS) at Piketon, OH from January 5-9, 1998. The inspection was performed by staff from NRC Headquarters.

The inspection also addressed the completion of Compliance Plan issue 20, "DOE Chemical Safety Third Party Use of Hazardous Chemicals," USEC stated in a June 13, 1997, letter to the NRC that this item was completed.

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

- Emergency Response Procedures (88064)
- Site Wide Safety Practices (88059)

Significant Findings and Conclusions

Although the information required by Portsmouth emergency response personnel regarding DOE and third party use of hazardous chemicals was available, it was not clear whether the procedural requirements defined in SSI/PO-P001 were being fully implemented. Therefore, an Unresolved Item was opened to further evaluate this item.

DETAILS

1.0 Site Emergency Response Procedures (88064)

a. Inspection Scope

The inspectors toured the Plant Control Facility (X-300), the Emergency Operations Center (EOC, X-1020), the Fire Station (X-1007), and the Health Services Center (X-101) to evaluate the emergency response capability of these facilities as they relate to chemical safety. The review consisted of: (1) evaluating emergency response procedures and personnel training records; (2) discussion with plant and medical staff members on issues related to chemical releases; and (3) the response to the high chlorine level alarm actuation at the X-611E building on January 5, 1998.

b. Observations and Findings

Emergency Operations Center

The EOC appeared well maintained, and all procedures and appropriate reference materials necessary to respond to emergency events were readily available. Each EOC position is staffed by three persons to ensure uninterrupted coverage. All people have been adequately trained to perform their assigned functions with training records kept by the Training Department and the EOC Director's staff. In accordance with PORTS Safety Analysis Report (SAR) Emergency Plan, Section 7.3, drills and exercises were held regularly. No deficiencies were identified.

Emergency Procedures

The inspectors reviewed the following EP procedures:

- XP2-EP-EP1050, "Emergency Classification," Rev. 1
- XP2-EP-EP1055, "Incident Command System," Rev. 0
- XP2-SH-SH5030, "Actions to Be Taken During a UF_6, HF, F_2 or ClF_3 Release," Rev. 1

In general, all three procedures appeared adequate to respond to chemical safety emergencies. During the review of the Emergency Classification procedure, the inspectors noted that the procedure did not provide guidance for the Emergency Classification levels associated with a Hydrofluoric Acid (HF) release. This guidance is important because it defines the emergency action levels based on the amount of the release. Based on this observation, Portsmouth management generated a problem report to evaluate the need to add HF response guidelines to Appendix B of procedure XP2-EP-EP1050.

Training

At PORTS, the fire fighters are also the HAZMAT team members. The inspectors reviewed the training requirements of the fire fighters and randomly chose three individuals to verify that their actual records could be matched with the training requirements matrix. The three individuals were selected from those who had responded to an earlier chlorinated water leak at X-611E (see next section for further discussion). All three people kept their training up to date. No weakness were identified.

HF First Aid Treatment

Most of the PORTS high risk chemicals (e.g., UF_6 and F_2), when exposed to air, will react with the moisture and form HF. Therefore, the inspectors focused their attention on the plant's capability of treating HF burns during an emergency involving major chemical releases.

The inspectors toured the Health Services Center (X-101). The medical staff was fully aware of the locations where the emergency first aid supplies were stored. The inspectors were shown the two medicines used to treat HF burns: Zephrin and Calcium Gluconate. Both were within their effective shelf life. The inspectors also reviewed procedure XP4-SH-HS2146, "Hydrogen Fluoride Injuries," Rev. 1, and found no discrepancies. Next, the inspectors visited the Fire Station (X-1007) to learn the HAZMAT team's ability to provide first aid to HF burn victims. The ambulance was equipped with a HF first aid kit. The medicines were provided by the medical staff and were within their expiration date. All HAZMAT team members were properly trained to field administer first aid to HF burn victims.

The inspectors noted that the HAZMAT team posted a one-page procedure on the first aid kit. Due to the infrequent use of this kit, the procedure serves as an operator aid when the HAZMAT team is called upon to render first aid.

X-611E Chlorinated Water Leak

The PORTS GDP chlorinates their domestic, fire, and sanitary waste water with gaseous chlorine. The one-ton chlorine cylinders and chlorine eductors are located in X-611E. There are a total of three separate water lines in X-611E; each one has a metal coupling made of a copper based material. The rest of piping is PVC. Gaseous chlorine is educted into water upstream of the metal coupling. On the morning of January 5, 1998, a chlorine alarm was received from X-611E. The alarm was caused by a leak that originated from two 1/4" holes on the line #1 coupling.

Upon discussion with the Plant Shift Superintendent (PSS) on duty and the Fire Chief who responded to this incident, the inspectors noted that the HAZMAT team took the appropriate steps to cordon off the road leading toward X-611E. They followed established procedures (including donning personal protective equipment) to enter the room where the alarm was activated and stop the leak. During the entire

evolution, close coordination between the HAZMAT team and the PSS was maintained. No deficiencies were noted.

c. Conclusions

The PORTS GDP has adequate control over its emergency response procedures. The Emergency Operations Center (X-1020) was equipped with necessary emergency response procedures and the reference materials that would be utilized in the event of a chemical risk. The medical staff and HAZMAT team were well equipped to provide first aid to HF burns victims. The HAZMAT team was trained to handle accidental spills, as evidenced in the January 5, 1998, chlorinated water spill incident. Their training records were kept up to date. No deficiencies were identified in the area of Emergency Response Procedures.

2.0 Site Wide Safety Practices (88059)

a. Scope

The inspectors reviewed PORTS site wide safety practice program implementing procedures. Specifically, these programs were evaluated with respect to chemical safety practices.

b. Observations and Findings

Site wide safety procedures are general requirements that help minimize the potential safety and health hazards associated with operations at the Portsmouth GDP. Specifically, the inspectors reviewed two procedures:

- Procedure XP2-SH-IS1038, "Instructions for Safety and Health Work Permit," Rev. 1, December 31, 1997.

- Procedure XP2-SH-SH5030, "Actions to be taken during a UF_6, HF, F_2 or ClF_3 Release," Rev. 1, March 22, 1996.

In general, these procedures define the requirements to provide a consistent method for both documentation of the potential safety and health hazards during work planning, and the immediate response actions to be taken as a result of a hazardous chemical release.

These procedures provide clear requirements to minimize the potential safety and health hazards associated with plant operations.

c. Conclusions

The procedures reviewed appear adequate to address the appropriate chemical safety concerns.

3.0 Compliance Plan Item #20

a. Inspection Scope

On June 13, 1997, USEC stated in correspondence to NRC that Portsmouth Compliance Plan Issue 20 was complete. This item concerned the DOE Chemical Safety and Third Party use of hazardous chemicals. The inspector reviewed the program that formally implemented the compliance plan item.

b. Observations and Findings

This compliance plan item was put into place because the NRC wanted to ensure that DOE provided information through established communication channels to USEC regarding the hazardous chemicals used by DOE and third parties present at the PORTS site that could impact nuclear operations. Therefore, DOE and USEC agreed to promptly provide each other with pertinent information concerning any activities that could have a potential safety impact on the operations at the site.

During the inspection, the inspectors reviewed several documents concerning this issue. Specifically, the following documents were reviewed:

- USEC and DOE Resolution of Shared Site Issues at the Gaseous Diffusion Plants J.W. Parks, DOE, and G.P. Rifakes, USEC, dated January 25, 1996,
- Administration of Shared Site Issues, Procedure SSI/PO-P001, dated October 30, 1996, and
- Portsmouth Gaseous Diffusion Plant Environmental Restoration and Waste Management Hazards Assessment, POEF-ERWM-34, dated November 1994.

The "USEC and DOE Resolution of Shared Site Issues at the Gaseous Diffusion Plants," dated January 25, 1996, specifies that DOE will provide to USEC a detailed description of any hazardous materials used or stored on-site and that such descriptions shall be updated promptly to reflect changes in third-party activities. If the hazardous material exceeds the current threshold quantities or subsequent modifications to the threshold quantities that are specified in 40 CFR 68, 302, and 355 and 29 CFR 1910.119, a safety risk analysis will be performed to identify the hazards and mitigating actions in accordance with those regulations.

Although the three documents reviewed have indicated that the third party use of hazardous chemicals at the Portsmouth GDP has been characterized in the past and

discussions with the PSS and emergency response personnel indicated that this type of information is available for emergency response purposes, the inspectors were not fully satisfied that the requirements of the Administration of Shared Site Issues, Procedure SSI/PO-P001 were fully implemented. Based on this, the inspectors opened **URI 70-7002/98-201-01** to further evaluate the implementation of this program.

c. Conclusion

Although the information required by Portsmouth emergency response personnel regarding DOE and third party use of hazardous chemical was available, it was not clear whether the procedural requirements defined in SSI/PO-P001 were being fully implemented. Therefore, an Unresolved Item was opened to further evaluate this item.

4.0 Followup on Previously Identified Items

a. IFI 70-7002/97-204-04 (Closed)

This item concerned the disposal of two F_2 tanks located at the west side of the X-710 building. The inspectors reviewed procedure XP4-TE-FG6645, "Evacuating F_2 Pig," effective date December 15, 1997. This procedure provides instructions for the evacuating of the two F_2 pigs located at X-710. The review of this procedure indicates that it is technically adequate to safely evacuate the F_2 and that the procedure was developed and approved per existing plant procedures. Based on the review of this procedure, this IFI is considered closed.

b. IFI 70-7002/97-204-05 (Closed)

This item concerned the review of procedure CN4.10, "Treating Oil Contaminated Compressors with F_2." Since this item was opened, the procedure was placed on hold and will have to be evaluated by facility management prior to being used. Since this procedure was placed on hold, the IFI is closed.

MANAGEMENT MEETINGS

Inspectors met with PORTS management representatives throughout the inspection. The exit meeting was held on January 9, 1998. No classified or proprietary information was identified. The following is a list of exit meeting attendees:

USEC:

S. Martin
K. Tomko
R. Gaston
C. Sheward
L. Fink
J. Shewbrooks
D. Ruggles
T. Jayne
M. Hasty
K. Davis
T. Hester
G. Salyers
D. Rockhold
M. Redden
J. Parker
J. Johnson

DOE:

J. Orrison

NRC:

G. Smith
A. Wong
D. Hartland

LIST OF ACRONYMS AND ABBREVIATIONS

F_2	Fluorine
HF	Hydrofluoric Acid
USEC	United States Enrichment Corporation
PORTS	Portsmouth Gaseous Diffusion Plant
PSS	Plant Shift Superintendent
ClF_3	Chlorine Trifluoride
IFI	Inspector Followup Item
URI	Unresolved Item

DOE/EH-0525

HIGHLY ENRICHED URANIUM WORKING GROUP REPORT

ON

ENVIRONMENTAL, SAFETY AND HEALTH VULNERABILITIES ASSOCIATED WITH THE DEPARTMENT'S STORAGE OF HIGHLY ENRICHED URANIUM

VOLUME I: SUMMARY

U.S. DEPARTMENT OF ENERGY
DECEMBER 1996

REPORT SUMMARY

INTRODUCTION

In March 1994, Secretary of Energy Hazel R. O'Leary directed the U.S. Department of Energy (DOE) to conduct an assessment of environmental, safety and health (ES&H) vulnerabilities associated with the storage of weapon-usable fissile materials across the DOE complex.[1] The ES&H vulnerability assessment for plutonium storage was completed in November 1994.[2] The ES&H vulnerability assessment for highly enriched uranium (HEU) storage was initiated by the Secretary in February 1996.[3] These two were preceded by a spent nuclear fuel vulnerability assessment completed in November 1993.[4] This report presents the results of the HEU assessment, which was completed in August 1996.

Highly enriched uranium is defined as uranium at least 20 percent of which is the fissile isotope uranium 235 (U-235). The Department and its predecessors produced HEU for nuclear weapons and some reactor fuels through the enrichment of natural uranium, beginning in the mid-1940s and ending in 1992.

Facilities used for manufacturing and processing HEU, most built in the 1940s and 1950s, contain significant quantities of the material in various forms. Much of the HEU material is in containers or locations not designed for extended storage. Highly enriched uranium contamination of floors and walls and HEU entrained in processing equipment are common at many facilities. Buildings and equipment that are aging, poorly maintained, or of obsolete design contribute to the problem. Activities in these facilities include the temporary storage, shipping, receiving, and processing of HEU. Processing activities include the recovery of HEU from solutions, scrap, and residues; the manufacture and storage of HEU reactor fuel; and cleanup in preparation for decontamination and decommissioning.

Assessment Sites and HEU Inventories

Site	HEU (metric tons)
Oak Ridge Y-12 Plant (Y-12)	>109
Rocky Flats Environmental Technology Site (RFETS)	6.7
Los Alamos National Laboratory (LANL)	3.2 (>1.0)
Portsmouth Gaseous Diffusion Plant	22.0
Idaho National Engineering Laboratory (INEL)	>1.0 (40)
Savannah River Site (SRS)	13.8
Oak Ridge K-25 Site (K-25)	1.5
Oak Ridge National Laboratory (ORNL)	1.2 (424)
Pantex Plant	16.7*
Sandia National Laboratories, New Mexico (SNL)	<1.0
Argonne National Laboratory-West (ANL-W)	<10.0
Lawrence Livermore National Laboratory (LLNL)	<1.0 (3.1)
New Brunswick Laboratory (NBL)	<1.0
Argonne National Laboratory-East (ANL-E)	<1.0
Eight sites holding lesser quantities of HEU and U-233	

*Includes planned dismantlement

NOTE: Quantities in parentheses are inventories of uranium 233, in kilograms, included in the HEU inventories. Uranium 233 is another fissile isotope of uranium, and like HEU it is weapon useable. Actual inventories are classified in cases where exact amounts are not shown.

The assessment employed a Working Group process that involved over 300 people, including Federal staff, site operating contractors, nationally recognized experts, consultants, and external stakeholders representing public interest groups, State, Federal, and international regulatory and advisory organizations. The Working Group's process, protocol, and methodology are described in Attachment A.

The HEU vulnerability assessment was an evaluation of the barriers that protect workers, the public, and the environment from operations or accidents involving HEU and other types of hazardous materials collocated or commingled with HEU, using a target-barrier-hazard analysis approach. The assessment teams characterized the vulnerabilities based on the likelihood of barrier breakdowns and consequences, including worker and public exposures to radiation and contamination of the environment.

The assessment involved 175 facilities at 22 DOE sites (see Attachment B). It focused on the storage and handling of more than 250 metric tons of HEU in various forms.

The assessment served two purposes: it systematically identified ES&H vulnerabilities that warrant prompt corrective action, and it

Assessment Scope

HEU Within Assessment Scope (U-235, U-233)

- Pits and disassembled nuclear weapons parts
- Metals
- Oxides
- Process residues
- Compounds
- Solutions
- Reactor fuel
- Holdup materials (materials entrained or otherwise held up in facilities or equipment)
- Samples, sources, and standards
- Hazardous materials commingled or collocated with HEU
- Irradiated spent fuel not previously evaluated in spent nuclear fuel vulnerability assessment

HEU Outside Assessment Scope

- Intact nuclear weapons
- HEU expended in nuclear tests
- Materials not in DOE custody
- Irradiated spent fuel and targets previously evaluated in spent nuclear fuel vulnerability assessment
- HEU materials previously evaluated in plutonium vulnerability assessment
- Waste—high-level, transuranic, and low-level
- Materials in areas under environmental restoration programs

Control to Sewell
cc: NE-1
Nt-1
Lanes
Griffith
Gillis
CCC DUE 11/29

The Secretary of Energy
Washington, DC 20585

November 8, 1991

MEMORANDUM FOR ASSISTANT SECRETARY FOR NUCLEAR ENERGY

SUBJECT: HIGHLY ENRICHED URANIUM (HEU) PRODUCTION

The work of the Department's HEU task force, which was coordinated with the Nuclear Weapons Council and the Department of Defense, has concluded that sufficient inventory levels of HEU are projected to be available to meet defense needs and associated strategic reserve levels for many years into the future. Accordingly, continued production of HEU at the Portsmouth, Ohio, Gaseous Diffusion Plant is not required.

Therefore, I am directing you to implement promptly a comprehensive plan to place the HEU production portion of the plant in standby. Your efforts to implement this direction should include coordination with the Offices of Congressional Affairs and Public Affairs. I further request that you take steps to reduce to a minimum, the time required to cease HEU production and associated expenditures and that you provide me a monthly report on your progress.

Within 3 years, the Department will make a decision to either continue to keep the HEU production portion of the enrichment plant in standby or to shut this portion down permanently. The Assistant Secretary for Defense Programs will be responsible for timely coordination of this latter decision.

James D. Watkins
Admiral, U.S. Navy (Retired)