R3/D2#65

May 17, 1996

Mr. Bruce Kaiser
Vice President, Fuel Operations
ABB Combustion Engineering
3300 State Road P
Hematite, MO 63047

SUBJECT: ROUTINE SAFETY INSPECTION - ABB COMBUSTION ENGINEERING, HEMATITE, MO (NRC INSPECTION REPORT NO. 070-00036/96002(DNMS))

Dear Mr. Kaiser:

The NRC conducted a routine safety inspection from April 22 through April 26, 1996, at the Hematite facility. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. At the conclusion of the inspection, the findings were discussed with Mr. R. Sharkey and other members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with personnel, and observations of activities in progress.

Based on the results of this inspection, the NRC has determined that a violation of NRC requirements occurred. This violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. E

EX 4

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. Your response may reference or include previous docketed correspondence, if the correspondence adequately addressed the required response. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

ENCLOSURE CONTAINS 10 CFR 2.790(d) INFORMATION
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Under provisions of Section 2.790(d) of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, reports containing information related to a licensee's physical protection program are exempt from public disclosure. Accordingly, Enclosure 2 and the Attachment will not be placed in the Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

Original Signed By

Gary L. Shear, Chief
Fuel Cycle Branch

Docket No. 70-36
License No. SNM-33

Enclosures: 1) Notice of Violation (2.790(d) Information)
2) Inspection Report 070-00036/96002(DNMS)
Attachment: Section 6 (2.790(d) Information)

cc w/encl 2: (w/o attachment to enclosure):
R. W. Sharkey, Director of Regulatory Affairs
R. A. Kucera, Missouri Department of Natural Resources

bcc w/encls: R. Pierson, NMSS
P. Ting, NMSS
S. Soong, NMSS
C. Pederson, RIII

bcc w/encl 2: (w/o attachment to enclosure):
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	070-00036
License No:	SNM-33
Report No:	070-00036/96002(DNMS)
Licensee:	ABB Combustion Engineering
Facility:	Hematite Nuclear Fuel Manufacturing Facility
Location:	Combustion Engineering, Inc. Hematite, MO 63047
Dates:	April 22-26, 1996
Inspectors:	T. Reidinger J. Jacobson J. Kniceley R. Cassano K. Hardin T. Ploski
Approved by:	G. Shear, Chief, Fuel Cycle Branch Division of Nuclear Materials Safety

Fire Protection (IP 88055)

- The licensee has taken significant measures, with numerous systems in place, to prevent, detect, and suppress fires. However, areas for improvement including detector coverage, training, and preventive maintenance were noted, as well as updating the Pre-Fire Plan.

Emergency Preparedness (IP 88050)

- The licensee's overall response to the exercise scenario was good. Actions taken to minimize the simulated exposures to the onsite emergency workers and nonessential staff were good. The licensee's emergency preparedness program was being adequately maintained and continued to have adequate management support.

- The failure to provide timely and detailed notifications of each emergency declaration to the State Emergency Management Agency and NRC's Operations Center was identified for inspector followup. (IFI 070-00036/96002-03)

REPORT DETAILS

1. Management Organization and Controls (IP 88005)

The inspectors reviewed the licensee's quarterly inspections (audits) for the fourth quarter of 1995 and the first quarter of 1996. The audits covered radiological safety, criticality safety, and general industrial safety. The inspectors noted that the audits appeared to be thorough and the responses generally adequate. A walk-down of some items verified that items which had been closed were actually corrected. Open items not closed in the fourth quarter were carried over to the first quarter for tracking purposes.

The inspectors concluded that the licensee's audit program was adequately identifying problems in selected areas and developing corrective actions. In addition, the inspectors noted that the licensee's upgraded tracking system should allow plant management to trend repeat findings and to evaluate the effectiveness of corrective actions taken in response to audits. Although a self-assessment is not required in plant security, had an audit been conducted, the licensee would have had an opportunity to identify a weakness in the security program (Section 6).

2. Operations Review (IP 88020)

Portions of the licensee's conversion and pelletizing plants returned to operation after a three-month suspension for capital improvement projects. During tours, the inspectors noted that the overall housekeeping at the facility had improved. Storage of flammable/combustible material was adequate and significant progress on removing the waste stored in the yard outside Building 253 had been made, although the project was not complete. Cylinder storage in the "UF_6 vaporization room" warranted attention to ensure that adequate pathways for emergency egress were maintained and general housekeeping in the area is improved.

3. Waste Shipments (IP 84850)

The licensee had made four low specific activity (LSA-1) shipments of contaminated dirt, sludge, and construction debris to a low-level waste site in 1996 as of the date of the inspection. The shipments were made in 27-cubic-foot supersacks which met the requirements for the appropriate industrial package (IP-1). The inspectors reviewed the licensee's radioactive waste manifests and shipping papers for the shipments and concluded that the information required by 10 CFR 20, 10 CFR 61, and 49 CFR 172 had been provided for and the shipments were made in accordance with 49 CFR 173.

4. Radiation Protection (IP 83822)

(Closed) Violation 070-00036/96001-01: Unauthorized transfer of a reactor fragment contaminated with special nuclear material above applicable release limits. All the corrective actions provided in the licensee's response dated March 15, 1996, had been implemented. These included surveys of the engineering offices for similar pieces of material and modification of Health Physics Procedure 309, "Survey of Items for Release," to include items which are released from the contaminated area, but not the restricted area. The violation is closed.

5. Operator Training (IP 88010)

Per license requirements, operating personnel receive criticality control refresher training on a biennial basis. To determine the effectiveness of this training, discussions were held with approximately eight plant operators regarding the "Safe Unit in Transit" concept. The wide variety of responses ranged from moderately correct to totally incorrect as compared to the lesson plan used for refresher training. There appeared to be no safety significance, as the employees' answers generally addressed a conservative philosophy. Adequacy of criticality training for the plant operators will be tracked as an Inspection Followup Item (IFI No. 070-00036/96002-01).

6. Physical Protection of Special Nuclear Material (IP 81431) and Security Plan (IP 81018):

This section is 10 CFR 2.790(d) information and is included as an attachment to this inspection report.

7. Fire Protection (IP 88055)

The inspectors examined the systems and practices in place for the prevention, detection, and suppression of fires throughout the facility, with a focus on areas that could impact radiological safety.

a. Program Management

The Industrial Safety Engineer (ISE) is responsible for the overall management of the fire protection program. He had expertise in the area of fire safety with a background in Industrial Technology (BS degree); numerous certifications in hazardous materials management, fire fighting, and emergency medical assistance; and approximately 10 years of active fire fighting and emergency medical technician experience. He recently relocated to the site as part of the licensee's efforts to improve the fire protection and other safety programs.

The site fire protection requirements in SP-203, Industrial Safety Program, and implemented in Nuclear Industrial Safety Procedure 215, "Fire Protection" addressed issues such as training; selection, location, and use of portable fire extinguishers; fire detection and alarm systems; sprinkler systems; and various inspections and tests. It was recently developed by the ISE and approved by management.

b. Training

Fire assistance team members were required to receive training in the use of portable fire extinguishers and the hazards of incipient stage fire fighting once assigned to the team, with retraining at least annually. Review of the primary training records revealed that four individuals, who were designated as "fire protection trained," did not have any available records to demonstrate training, and 10 individuals apparently had not received training since September 17, 1993.

c. Fire Detection

The inspectors noted that "alarm pull boxes" were appropriately located throughout the site in sufficient numbers. In addition, based on Procedure 215, the detector testing records, and discussions with the ISE, the inspectors concluded that most of the site is covered with automatic smoke and heat detection capability. However, the "storage warehouses" located adjacent to Buildings 230 and 255 did not have such capabilities. Although they do not contain licensed material, these warehouses have considerable combustible loading which could potentially affect adjacent buildings that do contain licensed material.

Procedure 215 listed frequency requirements for operability and sensitivity tests conducted on the various smoke and heat detectors located throughout the site. The frequencies varied from semiannually to biennially, depending on the type of test and detector. These coincided with the frequencies recommended in National Fire Protection Association (NFPA) code 72E. During the inspection, the licensee was only able to provide the inspectors with records of detector and alarm pull stations tested on March 23, 1995. The licensee explained that detectors and alarm pull stations had typically been tested every year prior to the development of Procedure 215, but acknowledged that testing records were unavailable.

d. Portable Fire Extinguishers

The licensee depended on portable fire extinguishing units to suppress any fires. The presence of sprinkler systems was minimal because most buildings on site were moisture controlled areas in which water (e.g., fire hoses) was not permitted. As such, the inspectors examined the adequacy of extinguisher type and size, location, and maintenance against NFPA 10, "Portable Fire Extinguishers."

Most of the units were of the "ABC" type, suitable for use in extinguishing ordinary combustibles, fires involving flammable liquids (e.g., oils, paints, etc.), and fires that involve energized electrical equipment. These extinguishers also alleviated any moderation concerns. There were also several "D" type fire extinguishers located strategically throughout the facility, should there be a need to suppress any combustible metal fires.

The size and number of extinguishers appeared adequate considering the areas to be covered and the maximum travel distance to the extinguishers. Accessibility was also satisfactory. No anomalies were noted regarding procedure and NFPA requirements for monthly, annual, and 5-year testing of these extinguishers.

e. Ammonia Systems

The inspectors examined the ammonia tanks and the distribution system, the ammonia dissociators, and the numerous furnaces located throughout the plant. These systems represented considerable chemical and fire hazards that could also affect radiological safety. (Ammonia is a highly toxic substance and the hydrogen component of the dissociated ammonia is highly flammable and explosive.)

The licensee employed various safety controls and alarms with these systems to prevent, detect, or mitigate the consequences of unwanted releases of ammonia or dissociated ammonia. However, based on discussions with the licensee, preventive maintenance (PM) or functional testing apparently were not conducted on these controls to ensure their operability. This concern was identified in NRC Inspection Report No. 070-00036/95-201, June 1995. The inspectors noted that PM and testing programs are typical of good industry practice, and are essential to the overall safe operation of the plant. This issue will be addressed during the next chemical safety inspection.

f. Incident Investigation

On April 5, 1996, the licensee experienced a small duration fire directly outside the re-densification furnace in the bulk drying room. The licensee's investigation found the root cause to be a hydrogen leak in the dissociated ammonia pressure switch. The leak was ignited by a spark from nearby grinding operations for which there was no hot work permit.

The hydrogen (dissociated ammonia) leak was caused by the failure of the pressure switch diaphragm. The diaphragm was rated for 2 pounds per square inch (gauge) {psig}, but was installed on the high pressure side of the pressure regulator which had an operating pressure of 25-35 psig. The switch has since been replaced with a more appropriate unit rated at 160 psig and an operating pressure of 80 psig. The licensee examined all its other furnaces for similar problems, but none were noted. In addition, the licensee planned to install a hydrogen detector on or near this re-densification furnace.

The inspectors noted that the installation of an incorrect pressure switch indicated that the licensee's management of change program had not been effective for this modification. In addition, the practice of not including grinding operations on hot work permits could result in work being performed with inadequate job controls.

g. Pre-Fire Plan

In a letter dated August 28, 1995, the NRC commented on the licensee's Pre-Fire Plan which was submitted on September 30, 1994. The licensee had not addressed any comments, even though the Pre-Fire Plan is a part of the licensee's Emergency Policy and Procedures Manual. The inspectors also noted that the location of one site fire hydrant was not on Figure 1-8, "Fire Water Systems, of the Pre-Fire Plan." This hydrant was located on the east side of the plant, near the No. 5 ammonia cracker room. The inspectors indicated the necessity for an accurate depiction of the locations of all the hydrants on site.

h. Miscellaneous

The inspectors examined the licensee's incinerator (which was not in full operation yet) to determine if any preliminary lessons learned from the recent fire at Nuclear Fuel Service (NFS), in Erwin, Tennessee, could be applied at the Hematite facility. Based on a preliminary review, the incinerator fire at NFS was apparently caused by an ill-maintained scrubber system. The scrubber system was designed to cool hot gases leaving the furnace with a water spray. The spray nozzles, however, were either clogged, turned off, or not functioning properly, which resulted in hot gases igniting the incinerator ductwork. The Hematite

clogged, turned off, or not functioning properly, which resulted in hot gases igniting the incinerator ductwork. The Hematite incinerator, however, was designed differently in that hot gases go through an air-cooled heat exchanger before entering the scrubber. The main purpose of the scrubber is to remove particulates and not to cool the gases. The inspectors determined that the preliminary lessons learned at NFS are not directly applicable to CE Hematite, except insofar as underscoring the importance of a good preventive maintenance and surveillance program.

i. Summary of Fire Protection

The inspectors concluded that the licensee maintained an adequate Fire Protection (FP) Program, although areas for improvement were noted. The addition of the ISE to the staff and the implementation of the new fire protection procedure demonstrated that the licensee had committed to the enhancement of the fire protection program.

In a telephone conversation on May 7, 1996, the Director of Regulatory Affairs addressed a number of the issues that were identified during the inspection:

1. Training all employees in the use of fire extinguishers by July 1996.

2. Reviewing the appropriateness of fire detectors for "storage warehouses" by July 1996.

3. Implementing all the elements of the new fire protection procedure by July 1996, with appropriate records of tests.

4. Initiating periodic "sniff" tests for hydrogen leaks after the furnace fire and considering installation of additional hydrogen detectors near the other furnaces using dissociated ammonia.

5. Placing grinding operations under the licensee's hot work permit program.

6. Updating the Pre-Fire Plan and addressing the NRC comments as appropriate.

8. Criticality Alarm Systems (IP 88050)

The inspectors reviewed the Criticality Alarm System test reports for the period from October 2, 1995 to April 8, 1996. The informal "Monthly Nuclear Alarm Checklist" used to record the required quarterly surveillance testing requirements appeared satisfactory. The licensee initiated actions that incorporated the criticality alarm calibration and testing procedures with the "informal" checklist into a new

procedure to better formalize and capture all the licensee requirements for the criticality alarm system. The criticality alarm panel configuration was reviewed and no anomalous alarms were present. The vendor's calibration measurements over the past year regarding the frequency and calibration ranges of the criticality instrument appeared satisfactory.

After conducting an instrument test in 1995, the licensee observed that certain areas in the plant appeared to be "audibly challenged" regarding the sound coverage of the criticality alarms. In response, four additional horns were installed at the designated "challenged" locations.

9. Emergency Preparedness Program (IP 88050)

a. Site Emergency Exercise

Section 7.3 of the licensee's Emergency Plan (EP) required that a biennial site emergency exercise and annual drills be conducted to test the adequacy and timing of the emergency response, the adequacy of the EPIPs and emergency equipment, and to ensure that emergency staff were familiar with their duties. Further, the EP required that the biennial exercise contain provisions for coordination with local offsite emergency response organizations and for testing communication links and notification procedures.

The exercise scenario involved a simulated explosion in the No. 5 ammonia cracker room. The explosion was postulated to blast the wooden cracker room roof off to the side of the building and to cause the roof to be ignited. The explosion was also postulated to injure two plant employees and release a large quantity of ammonia vapors in the immediate vicinity of the plant. The licensee utilized smoke generators and several flashing red light bars for added realism in this 2-hour exercise.

b. General Observations

An unannounced, evening exercise of the licensee's Emergency Plan (EP) and the Emergency Plan Implementing Procedures (EPIPs) was conducted at the HNFMF on April 25, 1996. The exercise tested the licensee's emergency response organization's capabilities to respond to an accident scenario involving a simulated release of ammonia vapors after an explosion and contaminated, injured staff.

The licensee's response was coordinated, orderly, and timely. The exercise demonstrated that the licensee's EP and associated procedures were good. The licensee demonstrated that it was capable of implementing these plans and procedures in an effective manner.

10. Specific Observations

a. Emergency Operations Center (EOC)

Overall EOC performance was evaluated as good.

The EOC and its Assembly Areas for plant evacuees were activated in an orderly and timely manner. Plant staff began arriving at the EOC, with some staff being pre-staged, shortly following the plant evacuation alarm. EOC staff promptly began assuming their tasks, activating equipment, reviewing procedural checklists, and establishing communications.

b. Emergency Director (ED)

Overall ED performance was evaluated as good.

In response to the fire alarm and reports of possible plant staff injuries, an immediate plant evacuation was ordered by the ED. Accountability of all onsite staff was completed in a very timely manner after the activation of the plant evacuation alarm. Two simulated accident victims were correctly identified as missing and presumed injured. Search and rescue efforts were promptly initiated by the ED. The ED tasked the Communication Director (CD) to immediately call the local emergency number to request onscene emergency medical service.

The ED provided a good initial plant status briefing to the EOC staff. However, throughout the exercise, the ED and key staff generally failed to conduct periodic staff briefings on changes to plant status and related response actions. Although the ED at times actively encouraged the staff to make recommendations and to forward any questions or concerns, the CD and Safety/Health Physics Director's (S/HPD's) staffs were generally not kept well informed of plant status changes, associated equipment repair priorities, and other response actions. Moreover, the ED was not kept informed, regarding the decisions made by the CD or S/HPD's staff, such as the status of one simulated injured worker who was evacuated from the plant and was currently undergoing decontamination in the EOC. As a result, the ED incorrectly informed the Fire Chief Incident Commander (FCIC) that two injured plant staff were still in the plant.

Other EOC briefings were not as thorough and well-detailed in providing overall plant status and priorities. Additional staff briefings would have alleviated duplicate information requests from various EOC staff or the FCIC. In some cases, the ED had to interrupt communications to re-brief individual EOC staff members or the FCIC on the current plant status or emergency response decisions.

Event detection and classification by the ED was excellent. The ED correctly declared the Alert and Site Area Emergency (SAE) based on plant status. Use of emergency procedures was excellent.

During discussions determining whether other potential fire locations existed in the plant besides the ignited "wooden" roof outside the plant, both the ED and FCIC appeared knowledgeable of license conditions regarding the special moderation controls that prohibited the use of fire (water) hoses by the firefighters to extinguish fires in certain areas inside the plant. The ED correctly authorized the FCIC to direct his firefighters to extinguish the ignited wooden roof.

c. Safety/Health Physics Directors (S/HPDs)

Management and control by the S/HPDs were good.

Although the S/HPDs' briefings were infrequent and not well organized, it appeared that most of the staff were generally kept informed of some emergency classifications, priority tasks, and changing plant conditions.

The S/HPDs' staff appeared to be proactive in identifying degraded plant conditions, attempting to correct equipment malfunctions, and eliminating potential further degrades in plant conditions. For example, the ED was advised to close all natural gas lines and secure all electrical power to the affected area.

The S/HPDs maintained a good overview of plant conditions and provided the ED with recommended response options. For example, after the dose assessment staff initiated onsite and offsite sampling, they determined that monitoring to confirm, assess and track the release was not warranted due to the low probability of a radiological release based on initial field survey results. In contrast, the plant escort for the fire department's Hazmat Team (HT) was not "suited up" when they proceeded to investigate the area of the suspected ammonia leak. As a result, when the HT was informed by radio that ammonia was detected, the HT had to direct their plant escort to leave the immediate area to avoid exposure.

d. Communications Director (CD)

Although the licensee's EP stated, in part, that the State Emergency Management Agency (SEMA) and NRC would be notified following any event classified as an Alert or a SAE, neither SEMA nor the NRC Headquarters Operations Center (HQOC) was notified of the Alert declaration or its bases. Instead, SEMA and the HQOC were notified of the subsequent SAE declaration and were given some information on degraded plant conditions and ongoing actions. The EP also stated, in part, that SEMA will be notified within about 15 minutes of any Alert or SAE declaration; however, SEMA was not initially notified until about 35 minutes after the SAE

declaration. This initial call to SEMA only occurred after notifications were completed to NRC's HQOC, the Missouri Department of Natural Resources and the Union Pacific Railroad.

One contributing factor involving the SEMA and NRC's HQOC notification problems was that the CD was not given the bases of the Alert declaration, the reclassification to a SAE, and the eventual reclassification to an Unusual Event. Another factor was the lack of a status board or a checklist as a tool to indicate the relative priority and status of completion of each required offsite agency notification.

Had scenario events been real, the lack of statements by the ED to the CD on the bases for each emergency classification decision could have adversely affected the overall understandings and associated actions of State and NRC responders. The failure to provide timely and adequately detailed notifications of each emergency declaration to SEMA and NRC's HQOC was identified as IFI No. 070-00036/96002-03.

The licensee's EP and notification checklists were not revised to indicate that the primary telephone number to contact NRC's HQOC was changed in mid-1994 and that there was no requirement to also directly contact NRC's Region III Office. As a result, the licensee's communicator contacted the HQOC by using the telephone number which became the HQOC's "backup" telephone number in mid-1994. When the communicator later called the Region III Office, the communicator only obtained a recorded message that provided the primary telephone number for contacting NRC's HQOC.

At the exit meeting, the NRC provided the licensee with a copy of Information Notice 93-60, which addressed reporting fuel cycle emergency events to the HQOC and additional information on the primary and alternate telephone numbers for the HQOC. The licensee indicated that the EP and associated notification checklists review should address the current primary and backup telephone numbers for NRC's HQOC and the notification protocol to NRC's Region III Office.

Good teamwork was demonstrated by two other communicators in completing a "local residents" call list in addition to required notifications to State agencies, the NRC HQOC and the railroad.

Emergency response to the exercise demonstrated the need for multiple communicators to fulfill all offsite communications responsibilities in a timely and adequately detailed manner. One communicator was essentially dedicated to maintaining "open line" communications with the local hospital for over 30 minutes, until the simulated accident victims were transported from the site.

Had scenario events been real, the HQOC's operations officer could also have requested "open line" communications with the licensee in order to satisfy NRC's real-time information needs for incident response purposes.

e. Reentry Team Operations

Overall performance of the reentry teams was good.

Two teams for reentry were selected and dispatched to the pellet plant building entrance. The S/HPDs' staff properly controlled the reentry teams into and out of the affected buildings and their subsequent decontamination at the control point. The two teams (two members per team) made timely reentries into the pellet plant buildings and promptly located the two simulated injured staff. Proper first aid concern was demonstrated. The "injured" were carefully attended while leaving the plant. The initial rescue team, as well as the other rescue team subsequently observed, wore and properly used appropriate protective clothing, including "acid suits" and self-contained breathing apparatus (SCBAs) for responding to an atmosphere of unknown ammonia concentration. Protective clothing items and SCBAs were in excellent condition.

After rescuing the injured, one reentry team successfully located and simulated shutting the three ammonia feed lines to all the plant ammonia crackers and simulated putting out a fire in the erbia plant ammonia cracker room with a fire extinguisher. An additional reentry team shut the natural gas supply line in the back of the pellet plant (at the request of the fire department) in a timely manner.

The inspectors noted that clear communications between the reentry team control point and the S/HPDs' staff were difficult at times. It was unclear at certain points in the exercise which team was supposed to reenter to perform a specified activity. As a result, it appeared that there was some hesitation in staging the reentry teams for securing selected plant equipment.

The inspectors also noted that the four reentry team members ran out of "air time" on the two bottles of compressed air used for reentry team operations. Typically, two air bottles for personnel wearing SCBAs and chemical gear are considered to be a maximum working limit beyond which the physical demands upon the person decrease his or her effectiveness and could potentially result in physical exhaustion or otherwise compromise the rescue mission. Had this been a real emergency, the four reentry team members likely would not have accomplished all the simulated rescue and repair actions without additional rescue teams.

f. Security Control

Overall performance of the security guard was evaluated as good.

The security guard quickly activated the evacuation alarm at the direction of the ED, and promptly initiated the telephone pager call for key plant staff. The guard printed the computer accountability access records in a timely manner and sent it to the EOC for staff roll-call accountability review.

During the plant evacuation, plant staff exited through vehicle gates and/or emergency staff exits unlocked or opened by the security guard or the plant staff. After the plant staff was successfully evacuated to the EOC, the guard exited the guard station and established a traffic control point at the parking lot entrance to assist and direct off-site emergency responders and response vehicles to the appropriate staging areas.

It was observed that when the security guard directed traffic, such as fire trucks and ambulances, to the appropriate staging areas, the guard appeared to be unable to adequately monitor plant access of the ambulance or firefighters after they entered the parking lot. As a result, there is a potential for emergency response staff to have unauthorized access to the plant. In addition, staff entering on foot bypassing the security guard also have the potential to have unauthorized access to the plant.

The licensee agreed to review the security plan requirements to determine whether any revisions are warranted.

g. Licensee Critique

The licensee held several critiques with participants following the exercise. These critiques were good and included a review of all the exercise objectives. The licensee provided a summary of its preliminary strengths and weaknesses prior to the exit interview which were in agreement with the inspectors' preliminary findings. However, the licensee failed to recognize or identify that there were an insufficient number of controllers to evaluate the performances of inplant teams. (Section 11)

The licensee identified that the exercise objective regarding the ability to respond to questions from outside organizations was evaluated as unsatisfactory. For example, the local reporter was not provided an escort at the EOC and as a result, the reporter had an opportunity to have unauthorized access to the controlled area. Other objectives were evaluated as satisfactory with identified areas requiring improvement. However, the NRC observed that the licensee's performance to adequately satisfy one additional objective was judged as marginal, i.e., the failure to make timely and comprehensive emergency notifications to state and federal agencies (Section 10.d).

During the critiques, the local fire department (FD) suggested that the first priority for the reentry teams, if possible, should be securing or controlling the source of the hazardous material, i.e., the ammonia. This would eliminate the possibility of further injuries or casualties to emergency responders in any rescue attempts.

Several difficulties were overcome in the use of portable emergency radio equipment. Several types of radio communications concerns were among the items self-identified. Other critique items were categorized as pertaining to procedures, training or equipment.

11. Exercise Control

No noteworthy instances of controllers prompting participants to initiate actions, which they might not otherwise have taken, were observed.

However, there was an inadequate number of controllers to control portions of the exercise. Approximately 40 minutes into the exercise, a controller, who was assigned to start the exercise and control the reentry teams inside the pellet plant, left the plant to observe the progress of the injured personnel to the hospital. As a result, there was no controller to provide feedback to this reentry team. Reentry teams that entered the plant to secure the valve to the main ammonia tank, to secure the natural gas supply, and to fight a "simulated" fire in the erbia ammonia cracker room had to do so without a controller interface.

Clear guidance or direction as to the status of the erbia plant roof fire or the effectiveness of the reentry team's actions was to be provided by a controller. This led to confusion in the exercise time-line regarding the time and location of the initial explosion, fire and the source of the ammonia leak. In addition, various EOC emergency directors on different occasions, had to divert attention or resources to re-evaluate current plant status or ask their controller "What is the actual plant status?"

On another occasion, two firefighters were escorted to survey the area fire scene by two plant staff who then inadvertently left them to go into the plant to secure electrical power. The firefighters then immediately exited to the reentry team control point.

12. Exit Interview

The inspectors held an exit interview on April 26, 1996, with the licensee representatives identified in Section 2 to present and discussed the preliminary inspection findings. The licensee indicated that none of the matters discussed were proprietary in nature.

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel Contacted

M. Eastburn, Nuclear Criticality Specialist
H. Eskridge, Senior Consultant
K. Hayes, Industrial Safety Engineer
R. Land, Director of Infrastructure
G. Page, Director of Ceramic Operations
R. Sharkey, Director of Regulatory Affairs
E. Saito, Health Physicist
R. Tollen, Director of Assembly Operations

NRC Observers and Areas Observed During Emergency Exercise

R. Cassano, Reentry Team Operations
K. Hardin, Safety/Health Physics Directors
J. Jacobson, Reentry Team Operations
J. Kniceley, Plant Security Support
T. Ploski, Communications Director
T. Reidinger, Emergency Director
G. Shear, Reentry Team Operations