**UNITED STATES**
**NUCLEAR REGULATORY COMMISSION**
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

September 10, 2004

Mr. Rory J. O'Kane
Plant Manager
Honeywell Specialty Chemicals
P.O. Box 430
Metropolis, IL 62690

SUBJECT: NRC INSPECTION REPORT 40-3392/2004-008 AND NOTICE OF VIOLATION

Dear Mr. O'Kane:

On August 13, 2004, the NRC completed an inspection at the Honeywell Specialty Chemicals facility. The purpose of the inspection was to perform a routine review of radiological controls program implementation, assess the effectiveness of corrective actions taken following the plant restart in response to the December 22, 2003, Site Area Emergency, and determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. At the conclusion of the inspection on August 13, 2004, the NRC inspectors discussed the findings with members of your staff.

The inspection consisted of an examination of activities conducted under the license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of the license. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. The violations were evaluated in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG 1600, which is included on the NRC's web site at http://www.nrc.gov/what-we-do/regulatory/enforcement.html. The violations are cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding the violations are described in the subject inspection report. The violations involve use of an inadequate procedure for cleaning a low boiler condenser and failure to perform adequate radiation surveys.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

This also refers to your July 2, 2004, response to the Notice of Violation transmitted to you by our letter dated June 2, 2004, with Inspection Report 40-3392/2004-004 (DFFI). We have reviewed your corrective actions for the violation and have no further questions. The basis for closure of the violation is provided in the attached report.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

Jay L. Henson, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

Docket No. 40-3392
License No. SUB-526

Enclosures: 1. Notice of Violation
2. NRC Inspection Report 40-3392/2004-008

cc w/encl:
Gary Wright,
Emergency Management Agency
Division of Nuclear Safety
1035 Outer Park Dr., 5th Floor
Springfield, IL 62704

Distribution w/encl:
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PUBLIC IE-07
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| OFFICE | RII:DFFI | | RII:DFFI | | RII:DFFI | | RII:DFFI | |
|---|---|---|---|---|---|---|---|---|
| SIGNATURE | /RA/ | | /RA/ | | | | | |
| NAME | D. Hartland | | R. Gibson | | C. Taylor | | | |
| DATE | | | | | | | | |
| E-MAIL COPY? | YES | NO | YES | NO | YES | NO | YES | NO |
| PUBLIC DOCUMENT | YES | NO | | | | | | |

OFFICIAL RECORD COPY DOCUMENT NAME: C:\ORPCheckout\FileNET\ML042570366.wpd

# NOTICE OF VIOLATION

Honeywell Specialty Chemicals
Metropolis, Illinois

Docket No. 40-3392
License No. SUB-526

During an NRC inspection conducted on August 9 through 13, 2004, two violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below.

A. License Condition 10 of NRC License No. SUB-526, Amendment No. 15, authorizes , in part, the use of licensed materials in accordance with the statements, representations, and conditions in Chapters 1 through 7 of the license application dated January 30, 2003.

Chapter 2, Section 2.6 of the application, dated January 30, 2003, requires that “plant operations shall be conducted in accordance with written Standard Operating Procedure Manuals.” Each manual provides detailed instructions for proper operation of each Production unit, and includes information pertaining to, in part, employee health and safety and hazardous chemicals handled in the unit.

Contrary to the above, on two occasions, the licensee conducted operations that were not specifically addressed or described in detail in written Standard Operating Procedure Manuals. These examples included,

1. As of August 13, 2004, one of the four vacuum (“Nash”) pumps was out-of-service and the licensee had cross-tied two operating fluorination trains together with three of the four operating Nash pumps to balance the flow between the two trains. The licensees operating procedure did not address that configuration.

2. On July 7, 2004, a plant operation was conducted with instructions in a written Standard Operating Procedure Manual that were inadequate in detail for ensuring employee health and safety and proper operation. Specifically, the licensee’s staff conducted a dry cleaning evolution on a low boiler condenser in the Feeds Material Building using Section 5.4 of Procedure MTW-SOP-DIS-0700, “Distillation Support,” and this procedure did not provide detailed instructions for ensuring over-pressure protection of the condenser vessel.

This is a Severity Level IV violation. (Supplement VI).

B. 10 CFR 20.1002 requires, in part, that the regulations in this part apply to persons licensed by the Commission to receive, possess, use, transfer, or dispose of byproduct, source, or special nuclear material or to operate a production or utilization facility under Parts 30 through 36, 39, 40, 50, 60, 61, 63, 70 or 72 of this chapter.

10 CFR 20.1501 requires, in part, that each licensee will make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present.

Pursuant to 10 CFR 20.1003, *survey* means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. In addition, a high radiation area is defined as an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 100 millirem in 1 hour at 30 centimeters from the radiation source or 30 centimeters from any surface that the radiation penetrate

Contrary to the above, as of August 12, 2004, the licensee, who is licensed under Part 40, did not make surveys to assure compliance with 10 CFR 20.1501. Specifically, the licensee did not evaluate the radiological conditions and potential hazards associated with the storage of 55-gallon drums containing bed material and filter fines. Dose rates approaching the level of a high radiation area (e.g., measurements of 92 millirem per hour at 30 centimeters) were identified during the inspection and the licensee had not conducted surveys which identified the potential of creating a high radiation area.

This is a Severity Level IV violation (Supplement IV).

Pursuant to the provisions of 10 CFR 2.201, Honeywell Speciality Chemicals is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

Because your response will be made publically available, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made publically available without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that

deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the basis for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 10th day of September, 2004

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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|---|---|
| Docket No.: | 40-3392 |
| License No.: | SUB-526 |
| Report No.: | 40-3392/2004-008 |
| Licensee: | Honeywell International, Inc. |
| Facility: | Metropolis Works |
| Location: | P. O. Box 430<br>Metropolis, IL 62960 |
| Dates: | August 9 through 13, 2004 |
| Inspectors: | David J. Hartland, Senior Fuel Facility Inspector<br>Richard Gibson, Health Physicist<br>Cynthia D. Taylor, Health Physicist |
| Accompanied By: | Jay L. Henson, Chief<br>Fuel Facility Inspection Branch 2<br>Division of Fuel Facility Inspection |
| Approved By: | Jay L. Henson, Chief,<br>Fuel Facility Inspection Branch 2<br>Division of Fuel Facility Inspection |

Enclosure 2

# EXECUTIVE SUMMARY

Honeywell International, Inc.
NRC Inspection Report 40-3392/2004-008 (DFFI)

The purpose of this inspection was to perform a routine review of radiological controls program implementation and assess the effectiveness of corrective actions taken following the plant restart in response to the December 22, 2003, Site Area Emergency. The inspection involved observation of work activities, a review of selected records, and interviews with plant personnel. The inspection identified the following aspects of the program as outlined below:

## Plant Operations

The inspectors observed that, overall, plant operations were performed safely and in accordance with procedural requirements. However, the inspectors identified a violation in which the licensee cross-tied the Nash pumps in a configuration that was not addressed in written procedures. Operations management intended to revise the applicable procedure to include that configuration. (Paragraph 2)

## Radiation Protection

Housekeeping in the Feeds Material Building showed some improvement since the last inspection of June 2004. However, a violation was identified in which the licensee failed to make or cause to be made surveys that were necessary to comply with the requirements of 10 CFR 20.1501. (Paragraph 3.a)

Internal exposures were significantly less than the limits in 10 CFR Part 20.1201. Bioassay procedures for urinalysis were complete and effective for implementation of radiation protection program requirements. Administrative controls and procedures were in place to monitor assign dose resulting from routine operations or an unplanned release of radioactive material. (Paragraph 3.b)

Radiological safety postings and radiation work permits were properly utilized to communicate potential hazards and protective equipment requirements to workers. (Paragraph 3.c)

## Transportation

Records pertaining to shipments of source material were appropriately completed and maintained. The licensee's program for routine radioactive material shipment was maintained and effective. (Paragraph 4.a)

The licensee's procedures for the preparation and delivery of uranium hexafluoride cylinders and drums of bed material were adequate. (Paragraph 4.b)

## Environmental Protection

The licensee's environmental protection program was conducted in accordance with NRC regulatory requirements. The licensee adequately implemented the environmental monitoring requirements set forth in the license application. However, the environmental sampling procedures lacked specific guidance for the collection of environmental air samples. The licensee intended to develop a procedure to address the issue. (Paragraph 5)

Waste Management

The licensee's waste management program was conducted in accordance with NRC regulatory requirements. The licensee intended to re-verify average flow rate calculations for the facility and develop a formal procedure for calculating liquid and gaseous effluent releases. (Paragraph 6.a)

The licensee stored low level radioactive waste (LLRW) in accordance with NRC regulatory requirements. Licensed material was properly stored at the licensee's facility, and documentation was adequate to account for the radioactive waste being stored. The licensee continued to actively plan projects for the disposal of legacy waste (greater than 12-month storage on-site). (Paragraph 6.b)

The licensee's program for the disposal of LLRW met regulatory requirements. (Paragraph 6.c)

Corrective Actions and Auditing

Another example of a procedure violation was identified regarding the use of an inadequate procedure for cleaning a low boiler condenser. There was also a large number of overdue actions in the licensee's corrective action system. The licensee intended to take action to address the issues. (Paragraph 7)

Attachment:
Partial List of Persons Contacted
Inspection Procedures Used
Items Opened, Closed, and Discussed
List of Acronyms Used

## REPORT DETAILS

### 1. Summary of Plant Status

During most of the inspection period, routine operations were conducted in the Feeds Material Building (FMB) without incident. The plant was placed in a standby mode of operation for a period of time to perform maintenance on the cold trap system.

### 2. Plant Operations

(1) Inspection Scope

The inspectors observed plant operations to ensure that activities were performed in accordance with license requirements. The inspectors also interviewed operators and reviewed selected procedure manuals to verify that appropriate operating procedures were used.

(2) Observations and Findings

The inspectors observed that, overall, plant operations were performed safely and in accordance with procedural requirements and that personnel used procedures "in-hand," as applicable. In particular, the inspectors noted that an evolution involving the tie-in and return to service of a primary cold trap was well-planned and implemented.

The inspectors observed shift turnovers and briefings in the control room. The inspectors also discussed with fluorination and distillation operators the procedures used for the existing operating conditions. The inspectors noted that the operators were alert and cognizant of plant conditions.

License Condition 10 of NRC License No. SUB-526, Amendment No. 15, authorized, in part, the use of licensed materials in accordance with the statements, representations, and conditions in Chapters 1 through 7 of the license application dated January 30, 2003.

Chapter 2, Section 2.6 of the application, dated January 30, 2003, required that "plant operations shall be conducted in accordance with written Standard Operating Procedure Manuals." Each manual provided detailed instructions for proper operation of each Production unit, and included information pertaining to, in part, employee health and safety and hazardous chemicals handled in the unit.

Since one of the four vacuum ("Nash") pumps was out-of-service during the inspection, the operators cross-tied the two operating fluorination trains together with the other pumps to balance the flow between the two trains. The inspectors noted that the operating procedure did not address that configuration. The failure to address this configuration in the operating procedure was identified as a violation. (VIO 40-3392/2004-008-02 a.) The inspectors discussed the issue with operations management. Operations management stated that they would revise the procedure to include that configuration.

(3) Conclusions

The inspectors observed that, overall, plant operations were performed safely and in accordance with procedural requirements. However, a violation was identified regarding the licensee's failure to address the cross-tied configuration of the fluorination trains with three Nash pumps in written procedures. Operations management intended to revise the applicable procedure to include that configuration.

## 3. Radiation Protection (IP 83822)(R1)

a. Radiation Protection Program Implementation (R1.01)

(1) Inspection Scope

The inspectors conducted interviews and reviewed licensee documentation to ascertain the status of program implementation.

(2) Observations and Findings

Audits were performed on a quarterly basis by the Health Physics (HP) Supervisor to determine if various program elements were being implemented in accordance with the license and regulations. In addition, the licensee contracted an outside consultant agency to perform independent audits periodically. The licensee management also had implemented a program in which the managers would audit the radiation protection program annually. The audits were effective in the verification of program implementation and included compliance and performance-based activities.

The inspectors toured the FMB and the outside storage areas along with the HP Supervisor to observe ongoing maintenance and operation activities. The inspectors noted that there were large amounts of ongoing maintenance activities in the building. The inspectors observed activities on the sixth floor which was posted as a high airborne radioactivity area. Personnel were wearing the appropriate half-face respirators as required.

During the tour of the FMB, the inspectors observed some minor housekeeping problems (i.e., trash in open containers not located in the waste collection areas). When brought to the attention of the HP staff, the issues were promptly addressed and corrected. The inspectors noted that housekeeping showed some improvement since the last inspection. Plant management's plan to develop a program for inspecting the areas and holding workers more accountable for housekeeping in their specific areas was progressing.

Additionally, while touring the facilities, the inspectors and the HP Supervisor performed radiation surveys and identified areas where 55-gallon drums of bed material and filter fines were stored (e.g., located near the FMB and at the outdoor drum storage area) and had created radiation fields ranging from 5 millirems to 92 millirems per hour at 30 centimeters. The licensee was not aware of the higher radiation fields and had not

adequately conducted surveys to evaluate the extent of radiation levels and the potential for creating high radiation areas from drums containing bed material and filter fines.

10 CFR 20.1501 required, in part, that each licensee will make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present. The licensee's failure to adequately make surveys as required in 10 CFR 20.1501 is a violation (VIO 40-3392/2004-008-01).

(3) Conclusions

One violation was identified regarding the failure to adequately make or cause to be made surveys to evaluate the extent of radiation levels and the potential radiological hazards that could be present from drums containing bed material and filter fines.

b. Internal Exposure Control (R1.05)

(1) Inspection Scope

The inspectors reviewed controls for assessing internal exposure to determine if they were in place to monitor occupational doses, and verify that the administrative limits were established to control occupational dose as low as reasonable achievable (ALARA). Exposure data was examined to determine if exposures resulting from various plant operations were exceeding limits in 10 CFR Part 20.

(2) Observations and Findings

The inspectors reviewed procedures and results of urinalysis for routine and special samples. Hourly personnel were required to provide urine samples to the HP department twice per month, and salary personnel on a monthly basis. Special urine samples were required for working in confined spaces and/or if at any time an employee was potentially exposed to airborne contaminants (e.g., a release from radioactive material).

The inspectors observed an HP technician analyze ten hourly employee urine samples in order to determine internal doses. The samples were analyzed using a kinetic phosphonetic analyzer. The results of the samples were below the licensee's action limit of 15 micrograms of uranium per liter. Any samples above the licensee's action limits were required to be re-counted for cross contamination and investigated by the HP department.

The licensee continued to improve its engineering features and administrative controls to reduce contamination and airborne activities. However, some employees' internal exposures exceeded the licensee's administrative action limits. The licensee conducted investigations to determine the origin of the employees' internal exposure and verified that the employees had not exceeded their weekly action limits. The inspectors determined that the administrative controls and procedures were in place to both monitor and assign dose resulting from routine operations or an unplanned release of radioactive material.

(3) Conclusions

Internal exposures were significantly less than the limits in 10 CFR Part 20.1201. Administrative controls and procedures were in place to both monitor and assign dose resulting from routine operations or an unplanned release of radioactive material.

c. Radiological Safety Postings (R1.07)

(1) Inspection Scope

The inspectors reviewed the licensee's program for posting as required by 10 CFR 19.11 to determine if documents were posted in sufficient places to permit individuals engaged in licensed activities to observe them. Several work locations were examined to determine if radioactive containers were properly labeled and to assess the adequacy of contamination control barriers and posting of radiation areas as required by 10 CFR 20.1902 and the license application. Radiation work permits (RWPs) and work procedures were reviewed to determine the adequacy of the requirements posted for worker protection and the degree to which those requirements were being implemented.

(2) Observations and Findings

Bulletin boards located in designated areas were posted such that workers could observe documents or obtain details as to where documents may be examined. All observed work areas involving radioactive material or potentially contaminated material were properly posted and RWPs were readily available. Selected containers examined during facility tours were labeled or had other markings on the container in accordance with requirements.

During the tour of the FMB, the inspectors observed that maintenance employees were repairing all outside doors to the building to ensure that the doors would self-close when opened to avoid concealing the posted signs. All posted radiological signs were visible and could be observed by employees entering the building.

(3) Conclusions

Radiological safety postings and radiation work permits were properly utilized to communicate potential hazards and protective equipment requirements to workers. All doors from the outside to the first floor were being repaired to self-close when opened to avoid concealing any posted signs.

## 4. Transportation (IP 86740) (R4)

a. Records of Completed Packages for Shipment

(1) Inspection Scope

Records related to the preparation and delivery of completed packages for shipment of source material were reviewed in order to verify proper shipping requirements. The inspectors reviewed the licensee's program for routine radioactive material shipments to determine whether the licensee had established and was maintaining an effective program to ensure radiological and nuclear safety in the packaging and delivery to a carrier of licensed radioactive materials, and to determine whether transportation

activities were in compliance with the applicable NRC and the Department of Transportation (DOT) regulations.

(2) Observations and Findings

During the inspection, transportation activities associated with uranium hexafluoride ($UF_6$) cylinders and 55-gallon drums of bed material and filter fines were reviewed, including procedural guidance, quality control activities, and record completeness to ensure compliance with 10 CFR Part 71, and 49 CFR Parts 171-178.

The inspectors reviewed the documentation used for source material shipments of $UF_6$ cylinders to customers and 55-gallon drums of bed material and filter fines for recovery including bills of lading, radioactive material shipment records, vehicle inspection reports, and health physics survey forms. The inspectors noted that the shipping records were adequately completed and maintained, and the information supplied on the shipping papers was appropriate.

(3) Conclusions

The licensee's records pertaining to shipments of source material were appropriately completed and maintained.

b. Preparation and Delivery of Completed Packages for Shipment

(1) Inspection Scope

The inspectors examined the licensee's written procedures related to the preparation and delivery of completed packages for shipment of $UF_6$ cylinders and 55-gallon drums containing bed material and filter fines.

(2) Observations and Findings

The inspectors verified that the licensee had acceptable procedures for the preparation of the cylinders and the 55-gallon drums, and delivery of the shipping packages to the carrier for shipment. The inspectors also verified that the appropriate personnel in the transportation department had current copies of the applicable DOT regulations and the changes that will be effective October 1, 2004.

(3) Conclusions

The licensee's procedures for the preparation and delivery of completed $UF_6$ and drums of bed material were adequate.

## 5. Environmental Protection (IP 88045)(R2)

(1) Inspection Scope

The inspector reviewed the licensee's environmental protection program to verify that program implementation was maintained and license commitments were adequately being met, and that impact on the environment and the public was minimal. The inspectors performed walk-downs of the interment ponds and accompanied an environmental technician during the daily gathering of samples and data from the environmental air sampling stations located on and off-site. In addition, the inspector reviewed the following documents:

License Chapter 4, Environmental Protection
License Chapter 5, Special Processes
License Chapter 11, Radiation Protection
Procedure for Control of Gaseous Effluents, dated August 19, 1996
Procedure for Control of Liquid Effluents, dated August 19, 1996
Procedure for Collecting Environmental Samples, dated August 19, 1996
Procedure for Review of Radiological Environmental Monitoring Program, dated August 19, 1996
Semi-Annual Effluent Report submitted to NRC, dated February 27, 2004 and August 25, 2003
Liquid Effluent Reports for Second Qtr. 2003 and First Qtr. 2004
Gaseous Effluent Reports for Second Qtr. 2003 and First Qtr. 2004

(2) Observations and Findings

The licensee's environmental program was reviewed to verify that environmental monitoring was implemented in accordance with Chapter 4 of the license application. Monitoring results from thermal luminescent detectors, surface water, soil, vegetation, sediment, and environmental air samples were reviewed to assess the radiological impact to the environment due to plant operations. The inspector determined that environmental samples were obtained at the required frequency and the gross alpha and beta activity levels were consistently below the license action level limits.

The inspector observed the condition of the environmental monitoring locations around the perimeter of the facility and several off-site locations. The sampling equipment was observed to be functional and calibrated at the required frequencies. In the health physics laboratory, the inspector observed the general condition of equipment being used to assess the environmental program and found the equipment quantity to be sufficient, calibrated, and in generally good working condition.

The inspector observed a technician gather daily environmental air samples from various locations on and off-site. When interviewed, the technician was knowledgeable of the particular task being performed but did not have a formal procedure for collecting the samples. The individual had received on-the-job training from a co-worker. The

inspectors discussed the issue with licensee's management, who acknowledged the observation and intended to develop a formalized procedure. Procedures for collecting soil, water, sediment and vegetation had been developed and formalized.

The inspector reviewed various reports and conducted interviews of the licensee's staff to determine if the licensee had been trending environmental data results, recognizing deficiencies, and properly evaluating problems when discovered. The inspector found that the licensee was trending environmental data through quarterly health physics audits. The audits covered a wide range of concerns, and were detailed and thorough.

(3) Conclusions

The inspector determined that the licensee's environmental protection program was conducted in accordance with NRC regulatory requirements. The licensee adequately implemented the environmental monitoring requirements set forth in the license application. However, the environmental sampling procedures lack specific guidance for the collection of environmental air samples. The licensee intended to develop a procedure to address the issue.

## 6. Radioactive Waste Management

a. Solid Waste Handling and Radioactive Effluents (IP 88035) R3

(1) Inspection Scope

The licensee's airborne and liquid effluent program was reviewed and observed for compliance with the requirements of 10 CFR Part 20 and Chapters 4 and 12 of the license application. The inspector assessed the licensee's radioactive waste management program for solid waste. The assessment included a review of radioactive waste storage, segregation, characterization, and processing. The inspector also reviewed the following documents:

Waste Management Manuel, revised September 2001
Procedure for Radioactive Waste Disposal, dated January 11, 2002
License Section 5.6, Radioactive Waste Management
License Chapter 9, Facility Description

(2) Observations and Findings

The inspector reviewed the licensee's semi-annual effluent reports for calender year (CY) 2003 which were required by 10 CFR 70.59. The inspector determined that the required data for the two semi-annual reports was submitted to the NRC in a timely fashion. Because the facility was shut-down from December 2003 to February 2004, the monitoring results for radiological effluents for that period had decreased from the previous monitoring periods.

The quarterly ALARA reports for CY 2003 provided sufficient detail on the total quantities and average annual concentrations of radioactive material released, volumes and stack flow rates, and fractions of the unrestricted release limit. The results showed no adverse trends or elevated activity. However, for the airborne effluent data, the inspector determined that the number used for the average flow rate throughout the facility had not been re-verified for several years.

The licensee acknowledged that a new assessment should be performed to ensure that the data was as accurate as possible. In addition, the licensee indicated that they would be looking into the need to update the current software being used to calculate the effluent data and developing a formalized procedure to capture the calculation of the effluent releases. Currently, the information was pulled from several sources and the current procedure lacked specific guidance.

The inspector accompanied technicians gathering effluent samples throughout the facility including the FMB and Outfall Number 002. All plant liquid effluent discharged through Outfall Number 002. The inspector noted no problems with the technician's knowledge and performance. The inspector observed waste collection areas in the FMB and various sites throughout the facility. The inspector observed that the non-radioactive and radioactive waste containers were properly labeled and in good condition.

(3) Conclusion

The inspector determined that the licensee's waste management program was conducted in accordance with NRC regulatory requirements. The licensee intended to re-verify average flow rates for the facility and develop a formal procedure for calculating liquid and gaseous effluent releases.

b. Low-Level Radioactive Waste Generator (IP 84900) R5

(1) Inspection Scope

The inspector reviewed the licensee's procedures for storage of low-level radioactive waste (LLRW), toured the site to observe storage areas, and discussed the waste storage program with the cognizant licensee representative.

(2) Observations and Findings

The inspectors toured LLRW staging areas in the compactor area, north pad staging area, and final waste staging areas and observed that waste containers were properly labeled and no significant container degradation or posting discrepancies were found. The inspectors observed proper housekeeping practices in these areas and proper controls in storage locations for unauthorized entry. LLRW storage was conducted in a manner as to prevent spread of contamination.

The inspector reviewed the CY 2003 LLRW shipment data and noted that the data was representative for normal plant operations. The licensee continued to actively plan projects for the disposal of legacy waste (greater than 12 month storage on-site) at their facility. At the time of the inspection, no active projects were taking place.

(3) Conclusions

The inspector determined that the licensee stored LLRW in accordance with NRC regulatory requirements. Licensed material was properly stored at the licensee's facility and documentation was adequate to account for the radioactive waste being stored. The licensee continued to actively plan projects for the disposal of legacy waste (greater than 12 month storage on-site) at their facility.

c. Waste Generator Requirements (IP 84850) R6

(1) Scope

The inspector verified that the licensee established and maintained adequate management controls of procedures and processes to ensure compliance with the requirements of Appendix G of 10 CFR Part 20 and 10 CFR 61.55 for LLRW form, classification, stabilization, and shipping manifest. The inspector reviewed selected radioactive waste shipping manifests in order to verify that the documentation included the required information. The inspector interviewed licensee personnel and reviewed selected records to ensure that low-level radioactive wastes were properly classified in accordance with NRC requirements. The inspector reviewed the following documents:

Low Level Radioactive Waste Manifest RACE 04-03, RACE 04-09, RACE 03-11, RACE 03-01
Low Level Radioactive Waste Manifest RACE 04-08, RACE 04-07 (Limited Quantity)
Waste Management Manuel Revised September 2001
Procedure for Radioactive Waste Disposal dated January 11, 2002
License Section 5.6, Radioactive Waste Management
License Chapter 9, Facility Description

(2) Observations and Findings

The inspector's review of LLRW shipments made in CY 2003 involved the examination of shipping manifests, and tracking of radioactive shipments. The inspector verified that the waste was classified in accordance with 10 CFR Part 61 requirements, and the licensee provided an acceptable level of information in the shipping papers to determine the quantities of each individual radionuclide shipped. The inspector determined that the licensee shipped the majority of the waste as "Radioactive LSA", and other quantities as "Limited Quantity" for scrap metal disposal.

The inspector determined that proper notification was made to the licensed waste brokers prior to shipments of the radioactive material. The licensee had established an adequate system for tracking of waste shipments. The system allowed proper

management oversight for those shipments leaving the facility. The inspector reviewed the licensee's waste shipment tracking log and verified that the licensee received an acknowledgment of receipt for the waste.

(3) Conclusion

The licensee's program for the disposal of LLRW met regulatory requirements.

## 7. Corrective Actions and Auditing

(1) Inspection Scope

The inspectors performed an assessment of corrective actions and auditing enhancements implemented since the restart of plant operations.

(2) Observations and Findings

The inspectors reviewed a sampling of issues that the licensee had entered into their new corrective action system (ECATS) as part of the plant restart. The inspectors noted that the licensee had initiated action to effectively address issues identified during previous inspections including development/revision of procedures for control of operator aids and standing orders, pen and ink changes, and an inconsistency regarding expectations for following procedures in the order they were written.

However, the inspectors noted that other issues had not been resolved:

- One item was a commitment made to the NRC prior to plant restart that required the licensee to validate the relief valve system design for cold traps and low boiler condensers. The licensee determined that procedural changes were required to ensure that the condensers were protected and completed those changes that applied to restart and normal operations. The changes included controls for locking valves in position to ensure that a relief valve on a nearby column provided relief protection.

  During the previous inspection, as documented in Report No. 04003392/2004007, the inspectors noted that the licensee had not completed similar changes to ensure protection was provided during a cleaning activity. The inspectors also noted that a standing order issued to prohibit performing the cleaning activity until the applicable procedure was revised could not be located. As a result, there was no mechanism in place to prevent licensee staff from performing the activity. The inspectors determined that the cleaning activity had not been performed since the restart. As corrective action, the licensee recovered the standing order and was drafting the revised procedure for the cleaning activity.

  However, during the current inspection, the inspectors again could not locate the standing order used to prohibit operations staff from performing the cleaning

activity and noted that the procedure had not yet been revised. This time, the inspectors learned that the operations staff had since performed the activity using the inadequate procedure.

License Condition 10 of NRC License No. SUB-526, Amendment No. 15, authorized, in part, the use of licensed materials in accordance with the statements, representations, and conditions in Chapters 1 through 7 of the license application dated January 30, 2003.

Chapter 2, Section 2.6 of the application, dated January 30, 2003, required that "plant operations shall be conducted in accordance with written Standard Operating Procedure Manuals." Each manual provided detailed instructions for proper operation of each Production unit, and included information pertaining to, in part, employee health and safety and hazardous chemicals handled in the unit.

Contrary to the above, on July 7, 2004, a plant operation was conducted with instructions in a written Standard Operating Procedure Manual that were inadequate in detail for ensuring employee health and safety and proper operation. Specifically, the licensee's staff conducted a dry cleaning evolution on a low boiler condenser in the Feeds Material Building using Section 5.4 of Procedure MTW-SOP-DIS-0700, "Distillation Support," that did not provide detailed instructions for ensuring over-pressure protection of the condenser. This is a violation. (VIO 40-3392/2004-008-02 b.)

- An issue identified as part the licensee's failure modes and effects analysis (FMEA) performed during the extended plant shutdown involved an operator error scenario where a liquid cylinder was lifted at the fill platform that was not completely full. Due to the shifting of material, the cylinder could swing in an uncontrolled manner and strike piping, causing a UF6 release.

  The FMEA recommended short-term actions to evaluate the strength of the mechanical guard around the piping to determine if the piping was adequately protected. In addition, the FMEA recommended that the applicable procedure be revised to include guidelines for when a cylinder could be safely lifted.

  The inspectors noted that ECATS Item No. MTW20040329-01 was generated and assigned to the Engineering Manager to address the issue. Engineering's evaluation regarding the strength of the piping guard was in progress, but the item regarding the procedure guidance had not been addressed. In response, the ECATS item was revised to transfer ownership to operations to revise the procedure.

- The inspectors continued the note inconsistencies between requirements in Section 13.4.9 of the license application and procedure requirements for implementing the management of change process. The inspectors noted that the licensee was drafting a new procedure, MTW-ADM-PRO-0120, "Management of Change," to address those inconsistencies.

The inspectors also assessed the licensee's overall timeliness in resolving issues that were entered in ECATS. The inspectors noted that data provided by the licensee indicated that over half of the items in the system were an average of 35 days past due. The licensee attributed the adverse trend in items past due as compared to the last inspection to the large volume entered into the system, including deficiencies identified by the contractors who had performed on-shift audits during plant restart. The licensee intended to address the backlog of open items, including prioritization of the more safety significant issues.

In addition, the inspectors noted that the licensee had drafted a new policy and procedure for implementation of an enhanced self-assessment program. The policy would require weekly inspections and monthly team assessments to be performed by individuals and groups led by management. The assessments would focus on safety and hazard awareness, regulatory compliance, housekeeping, etc. A standard format would be used for reporting deficiencies, including issues identified and proposed corrective actions. The inspectors noted that a pilot monthly audit to assess procedural adherence in the FMB documented a quality finding and "opportunities for improvement."

The inspectors will continue to monitor the licensee's progress in implementing the new corrective action and assessment programs using existing Inspector Followup Item 04003392/2003-007-04, licensee actions to centralize and automate the corrective action system to enhance their ability to perform adverse trend analyses.

(3) Conclusions

The inspectors identified a violation regarding the use of an inadequate procedure for cleaning a low boiler condenser. The inspectors also noted that there were a large number of overdue actions in the licensee's corrective action system. The licensee intended to take action to address the issues.

## 8. Follow up on Previously Identified Issues

a. (Open) IFI 40-3392/2003-007-01: Actions to address deficiencies in the group operator training program. The licensee had established a six-month proficiency requirement for operators to maintain qualifications for specific positions. However, the inspectors noted that the requirement had not been documented in training policies. This item remains open pending incorporation of the requirement in the policies.

b. (Closed) VIO 40-3392/2004-004-01: Failure to renew letters of agreement with off-site emergency response organizations. The inspectors reviewed the letter of mutual assistance agreement between the licensee and several off-site organizations and determined that the letter was signed by each off-site official. This item is closed.

c. (Closed) URI 40-3392/2004-003-03: Inadvertent shipment of uranium ore instead of dust fines to a contractor. From review of records, the inspectors determined that the contractor was licensed with the State of Colorado to possess uranium ore. The licensee revised their procedure for checking shipment of bed material prior to delivery,

and the shipping personnel were required to fill a check list to ensure that inadvertent shipment of uranium ore did not recur. This item is closed.

d. (Closed) VIO 40-3392/2003-004-01: Failure to follow Radioactive Waste Management Manual requirements. Quarterly audits had not been documented and non-radioactive material was not marked with white spray paint. The inspector verified that non-radioactive and radioactive waste containers were properly labeled per the licensee procedures and were in good condition. In addition, the inspectors verified that the quarterly audits were performed and documented. This item is closed.

e. (Closed) IFI 40-3392/2003-004-02: Outfall instrumentation inaccuracies. The licensee moved the ultrasonic level indicator further away from the weir and cleaned the sand, gravel, and other small debris away from another outfall area for Ponds 3 and 4. In addition, the licensee intended to add the instrument to a yearly master maintenance schedule by March 2005 which included having an outside entity perform the yearly preventive maintenance and ensure that the instrument was within manufacturer specifications. This item is closed.

## 9. Exit Meeting Summary

The inspectors presented the inspection results to members of the plant staff and management at the conclusion of the inspection on August 13, 2004. The plant staff acknowledged the findings presented. The inspectors asked the plant staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

## 1. PARTIAL LIST OF PERSONS CONTACTED

Honeywell Specialty Chemicals

*R. O'Kane, Plant Manager
*P. Bryan, Nuclear Fuel Manager
*D. Dodge, Environmental Supervisor
*M. Ginzel, Health Physics Supervisor
*J. Johnson, Safety Supervisor
*J. Malanowski, Engineering Manager
*D. Mays, Environmental and Regulatory Affairs Manager
*M. McPhee, Human Resources Manager
*B. Vandermeulen, Quality Assurance/Supply Chain Manager

* Denotes those present at the exit meeting on August 13, 2004

## 2. INSPECTION PROCEDURES USED

| | |
|---|---|
| IP 83822 | Radiation Protection |
| IP 84850 | Radioactive Waste Management |
| IP 84900 | Low-Level Radioactive Waste Storage |
| IP 86740 | Transportation |
| IP 88035 | Radioactive Waste Management |
| IP 88045 | Environmental Protection |

## 3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

| Item | Status | Description |
|---|---|---|
| VIO 40-3392/2004-008-01 | Open | Failure to conduct adequate surveys. |
| VIO 40-3392/2004-008-02 | Open | Two examples of conduct of operations that were not specifically addressed or described in detail in written Standard Operating Procedure Manuals. |
| IFI 40-3392/2003-007-01 | Open | Actions to address deficiencies in the group operator training program. |
| VIO 40-3392/2004-004-01 | Closed | Failure to renew letters of agreement with offsite emergency response organizations. |
| URI 40-3392/2004-003-03 | Closed | Inadvertent shipment of uranium ore instead of dust fines to contractor. |
| VIO 40-3392/2003-004-01 | Closed | Failure to follow Radioactive Waste Management Manual requirements. |
| IFI 40-3392/2003-004-02 | Closed | Outfall instrumentation inaccuracies. |

## 4. LIST OF ACRONYMS USED

| | |
|---|---|
| ADAMS | Agency Document Access and Management System |
| ALARA | As Low As Reasonably Achievable |
| CFR | Code of Federal Regulations |
| CY | Calendar Year |
| DFFI | Division of Fuel Facility Inspection |
| DOT | Department of Transportation |
| FMB | Feeds Material Building |
| FMEA | Failure Modes and Effects Analysis |
| HP | Health Physicist |
| IFI | Inspector Followup Item |
| IP | Inspection Procedures |
| IR | Inspection Report |
| LLRW | Low Level Radioactive Waste |
| NRC | Nuclear Regulatory Commission |
| PARS | Publicly Available Records |
| RWP | Radiation Work Permit |
| $UF_6$ | Uranium Hexafluoride |
| URI | Unresolved Item |
| VIO | Violation |