

September 6, 2001

Mr. J. William Lessig
Honeywell Specialty Chemicals
P.O. Box 430
Metropolis, IL 62960-0430

SUBJECT: NRC INSPECTION REPORT 04003392/2001-005(DNMS) (HONEYWELL)

Dear Mr. Lessig:

On August 17, 2001, the NRC concluded a routine inspection at your Metropolis, Illinois 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 preliminary findings identified in the enclosed report were discussed with you and members of your staff.

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 the inspection, the NRC has identified one unresolved item that requires some additional information for the NRC to determine if a violation of NRC requirements occurred. The unresolved item is described in detail in the enclosed report, and it is related to your procedural controls for installation of a temporary standby generator.

You are requested to respond within 30 days from the date of this letter describing the basis for your staff's determination that the temporary standby generator was a "like-for-like" equipment replacement not subject to the controls required by your modification procedure. Your response should also describe testing of the temporary standby generator that was used to conclude it was a "like-for-like" replacement.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available **electronically** for public inspection in the NRC Public Document Room **or** from the *Publicly Available Records (PARS) component of NRC's document system (ADAMS)*. *ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html>* (the Public Electronic Reading Room).

J. Lessig

-2-

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

Sincerely,

/RA/

Patrick L. Hiland, Chief
Fuel Cycle Branch

Docket No. 04003392
License No. SUB-526

Enclosure: Inspection Report 04003392/2001-005(DNMS)

cc w/encl: T. Ortigier, Illinois Department
of Nuclear Safety

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 04003392
License No: SUB-526

Report No: 04003392/2001-005 (DNMS)

Licensee: Honeywell Specialty Chemicals

Facility: Metropolis Works

Location: P. O. Box 430
Metropolis, IL 62960

Dates: August 13 through 17, 2001

Inspector: David J. Hartland, Portsmouth Senior Resident Inspector

Approved By: Patrick L. Hiland, Chief
Fuel Cycle Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY
Honeywell Specialty Chemicals
NRC Inspection Report 04003392/2001-005(DNMS)

Plant Support

The inspector concluded that plant staff's response to a uranium hexafluoride (UF₆) release in the Feed Materials Building was adequate. No recurrence of procedural adherence problems identified during response to a similar event in 1998 was noted. An inspector followup item (IFI) was identified to review plant staff's implementation of corrective actions to prevent recurrence. (Section P1.1)

The inspector noted that plant staff did not use the process modification procedure for installation of a temporary standby generator. The inspector also noted that plant staff did not test the generator to ensure that vital loads could be manually distributed. One unresolved item was identified. (Section P2.1)

The inspector verified that plant staff was conducting drills and audits as required by the license. However, the inspector identified a weakness in the documentation of action items and associated corrective actions. An inspector followup item was identified regarding the implementation of a plant-wide database to track all action items. (Section P6.1)

Report Details

I. Plant Support

P1 Conduct of Emergency Preparedness Activities

P1.1 Review of Uranium Hexafluoride (UF₆) Release

a. Inspection Scope (88050)

The inspector reviewed the plant staff's response and investigation into a UF₆ release in the Feed Materials Building.

b. Observations and Findings

On August 10, 2001, the plant staff made a verbal courtesy notification to the NRC to report a small release of UF₆ in the Feed Materials Building. At the time of the release, the plant staff were restoring the Number 3 Low Boiler Condenser to service following a cleaning evolution. The condenser was part of the distillation plant and was used to remove impurities that have vaporization temperatures below that of UF₆. The cleaning evolution was performed to remove the impurities that had adhered to the condenser tubes which impaired heat transfer capability.

In addition to the steam lines on the tube side of the condenser, there were UF₆ supply and return lines and a vacuum line for evacuating the shell side to support the cleaning evolution. The release occurred as maintenance mechanics were loosening a blind flange from the UF₆ supply line for removal and installation of the normal spool piece. In response, one of the mechanics reported the release over the Public Address (PA) system while another mechanic tightened the flange bolts to isolate the release.

In response to the PA announcement, the plant staff initiated actions required by the Radiological Contingency Plan. A Plant Emergency was declared, the site alarm system was sounded, emergency officers reported to their assigned positions, and personnel accountability was completed in a timely manner. The release was reported as being stopped within 10 minutes of the PA announcement, and an "all-clear" was granted after approximately 40 minutes. The two mechanics were treated for hydrofluoric acid burns with zephrine chloride solution and oxygen on-site before being transported to the local hospital for observation. The mechanics were released for normal duty later that day. An operator, also at the scene, was not injured.

The plant staff members involved with the release and emergency response provided urine samples later in the day. Analysis of the samples indicated that one individual received an intake above the investigative level of 200 micrograms/liter, but it was a small fraction of the limit for intake of soluble uranium specified in 10 CFR 20. As a result of elevated levels of airborne radioactivity, half-face respirators were required in portions of the building until the following morning.

The inspector's review of the plant staff's response to the event included a review of applicable logs and interviews with personnel directly involved. Unlike a similar event that occurred in 1998 (Inspection Report 040-3392/98002), the inspector determined that the applicable procedure was followed prior to disconnecting the blind flange. The

inspector also determined that the plant staff implemented the requirements in the "Instructions for UF₆ Release Control," including shutdown of the building ventilation system to minimize the spread of the release. The inspector also concluded that the plant staff appropriately classified the event as a Plant Emergency, since smoke was not visible beyond 150 feet from the building, which would have required an Alert declaration. However, the inspector noted that the operators did not document the event in the control room log. When the inspector brought this to the attention of plant management, a late entry was made in the log.

Afterwards, plant management assembled a team to investigate the event as required by plant procedure. The team determined that the root cause was from two leaky block valves used to isolate the UF₆ feed line. The team determined that the valves were not sufficiently torqued by using chain operators to close the valves. In addition, the team believed that the line used to maintain a vacuum during the removal of the blind flange was partially restricted. As corrective action, plant management intended to require the use of a valve wrench to ensure that isolation valves were fully seated. In addition, management also intended to revise procedures to provide a means for verifying that UF₆ lines were not under pressure prior to opening the systems, including the installation of a ball valve on the blind flanges to allow for checking the pressure. Review of the implementation of these actions is an inspector followup item (IFI 04003392/2001-005-01).

c. Conclusions

The inspector concluded that the plant staff's response to a UF₆ release in the Feed Materials Building was adequate. No recurrence of procedural adherence problems identified during response to a similar event in 1998 was noted. An inspector followup item was identified to review the plant staff's implementation of corrective actions to prevent recurrence.

P2 Status of Emergency Preparedness Facilities, Equipment, and Resources

P2.1 Temporary Standby Generator

a. Inspection Scope (88050)

The inspector reviewed the status of emergency preparedness kits and equipment.

b. Observations and Findings

The inspector examined a sampling of emergency kits specified in the emergency plan and verified that the proper inventory levels were maintained and periodically checked. The inspector also verified that equipment was operable and maintained in good condition.

The inspector noted that, in May 2001, the standby diesel generator was removed from service and a package generator installed as a temporary replacement. The function of the standby generator was to automatically start in the event that normal electrical power was interrupted. Standby power was then manually distributed to vital loads, as required, including emergency exit lighting in process buildings and critical

instrumentation in the Feed Material Building to monitor the in-process UF₆ and to evacuate equipment as needed to maintain the process in a safe condition.

The temporary generator was not an identical replacement (i.e., same make and model), and it was not in the same physical location. The inspector noted that the plant staff did not implement Policy No. PT-1, "Process Modification Procedure," prior to installation of the temporary generator. The procedure outlined the basis, criteria, and authorization needed for implementing a process change. The procedure defined a process modification as a change to plant-related Occupational Health and Health Physics equipment.

The inspector also noted that, although the plant staff performed a test on the temporary generator to ensure that it would automatically start on a loss of normal power, no testing was performed to ensure that vital loads could be manually distributed. In response to the inspector's issue, the plant staff contacted the temporary generator's supplier, but no assurance was provided that a load test was performed.

License Condition 10 of Source Materials License SUB-526, Amendment 14, authorized, in part, the use of licensed materials in accordance with the statements, representations, and conditions in Chapter 1 through 7 of the license application. Chapter 5, Section 5.4, "Chemical Safety Plan," required, in part, that plant operations comply with the Chemical Safety Plan as described in Chapter 13.4 of the license application. Chapter 13, Section 13.4.9, "Management of Change," stated that plant policy PT-1, "Process Modification Procedure," outlined the basis, criteria, and authorization needed for effecting a change. PT-1 stated that process modifications must be reviewed and approved by all specified approvers before implementation.

The licensee stated that installation of the temporary standby generator was considered a "like-for-like" change in equipment, and as such, the process modification procedure was not required to be utilized. However, the inspector was not able to verify the licensee's determination that the temporary equipment was "like-for-like." In particular, at the time of the inspection, there was no documentation of the licensee's "like-for-like" determination, and testing of the temporary generator was limited to its automatic start feature. This is considered an **Unresolved Item (URI 04003392/2001-005-002)** pending the inspector's review of additional information from the licensee.

c. Conclusions

The inspector noted that the facility's process modification procedure was not implemented prior to installation of a temporary standby generator. In addition, the inspector noted that the plant staff did not test the generator to ensure that vital loads could be manually distributed. One unresolved item was identified.

P6 Emergency Preparedness Organization and Administration

P6.1 Action Item Tracking

a. Inspection Scope (88050)

The inspector reviewed the plant staff's corrective actions to previous emergency drill and audit findings.

b. Observations and Findings

The inspector verified that the plant staff conducted quarterly drills of the "UF₆ Release Control Procedure," as well as quarterly communication checks with offsite response organizations as required by the license. The inspector also reviewed the results of the last annual Site Area Emergency rescue drill conducted September 13, 2000. Observers from off-site organizations, including the NRC, evaluated that drill and participated in the critique of the effectiveness of the response.

Although NRC Inspection Report 04003392/2000-004, dated September 28, 2000, indicated that no significant issues were identified, some areas for improvement were noted, including the bases for classifying and downgrading the event. The licensee did not document any deficiencies following the September 2000 drill, and action items were not assigned to responsible individuals for correction. In addition, the inspector reviewed the audit of the emergency preparedness program required to be performed every three years by the license. The audit report, dated December 16, 1998, documented open items regarding training of emergency response personnel. The inspector noted that the corrective actions to these items were not formally tracked and documented.

The inspector reviewed a sampling of records of individuals in the emergency response organization to verify that training was consistent with the frequency and performance objectives required by the license. The inspector also verified that audit open items were being addressed. Plant management acknowledged a weakness in the tracking and disposition of action items and were in the process of implementing a plant-wide database to track all action items. Implementation of this database is an inspector followup item. **(IFI 04003392/2001-005-03)**

c. Conclusions

The inspector verified that the plant staff was conducting drills and audits as required by the license. However, the inspector identified a weakness in the documentation of action items and associated corrective actions. An inspector followup item was identified regarding the implementation of a plant-wide database to track all action items.

II. Management Meeting

X. Exit Meeting Summary

The inspector presented the inspection results to members of the plant staff and management at the conclusion of the inspection on August 17, 2001. The plant staff acknowledged the findings presented. The inspector asked the plant staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Honeywell Specialty Chemicals

M. Davis, Health Physics Supervisor
D. Heine, Production Supervisor
W. Lessig, Plant Manager
J. Pratte, Maintenance and Operations Manager
H. Roberts, Health Physics Supervisor
M. Shepherd, Regulatory Affairs Manager

Other members of the licensees' staff were also contacted during the inspection.

INSPECTION PROCEDURES USED

IP 88050: Emergency Preparedness

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened:

04003392/2001-005-01	IFI	Review of the plant staff's implementation of corrective actions to a uranium hexafluoride release
04003392/2001-005-02	URI	Installation of temporary standby generator
04003392/2001-005-03	IFI	Implementation of plant-wide database to track action items

Closed:

None

Discussed:

None

LIST OF ACRONYMS USED

ADAMS	Agency Document Access and Management System
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Material Safety
IFI	Inspection Followup Item
IP	Inspection Procedure
NRC	Nuclear Regulatory Commission
PA	Public Address
PARS	Publicly Available Records
PDR	Public Document Room
UF ₆	Uranium Hexafluoride
URI	Unresolved Item