



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
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March 29, 2007

Mr. David Edwards  
Plant Manager  
Honeywell Specialty Chemicals  
P.O. Box 430  
Metropolis, IL 62690

SUBJECT: NRC INSPECTION REPORT 40-3392/2007-001

Dear Mr. Edwards:

This letter refers to the inspection conducted February 26 to March 1, 2007, at the Honeywell Specialty Chemicals facility. The purpose of the inspection was to perform a review of the plant's operations, management organization and controls, and maintenance and surveillance programs to determine whether activities authorized by the license were conducted in accordance with NRC requirements. At the conclusion of the inspection on March 1, 2007, the findings were discussed with those members of your staff identified in the enclosed report.

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, no violations of regulatory requirements occurred.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," this document may be accessed through the NRC's public electronic reading room, Agency-Wide Document Access and Management System (ADAMS) on the Internet at <http://www.nrc.gov/reading-room/adams.html>.

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

Enclosure: (See page 2)

D. Edwards

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Enclosure: NRC Inspection Report

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 40-3392

License No.: SUB-526

Report No.: 40-3392/2007-001

Licensee: Honeywell International, Inc.

Facility: Metropolis Works

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

Date: February 26 to March 1, 2007

Inspectors: Omar López, Fuel Facility Inspector  
José G. Jiménez, Fuel Facility Inspector

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

Enclosure

## EXECUTIVE SUMMARY

Honeywell International, Inc.  
NRC Inspection Report 40-3392/2007-001

The purpose of this routine core and regional initiative inspection was to observe and evaluate the licensee's plant's operations, management organization and controls, and maintenance and surveillance programs to determine whether activities authorized by the license were conducted in accordance with NRC requirements. 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:

### Operational Safety Review

- Management and administrative practices were found to be adequate. Improvements to the facility operations, maintenance and training programs contributed to improved performance in this area. The plant is operating in accordance with the documented safety analyses.(Paragraph 2.a)
- The licensee adequately implemented safety controls through appropriate maintenance practices, proper configuration control of the processes and with adequate qualification of operators. (Paragraph 2.b)
- The management measures for programs established by the licensee to support the proper function and reliability of safety controls in the facility were adequately ensured the safe operation of the facility. (Paragraph 2.c)
- The inspectors determined that reviewed activities were conducted safely and in accordance with applicable procedures. Corrective actions for the enhancement of procedure adherence were being implemented adequately. (Paragraph 2.d)

### Maintenance and Surveillance

- The observed maintenance activities in the Feed Materials Building were properly performed according to maintenance authorizations, work control procedures, and permits. (Paragraph 3.a)

### Management Organization and Controls

- The inspectors determined that the reviewed licensee efforts to improve procedures, training, conduct of operations, management oversight, and corrective actions were adequate. (Paragraph 4.a)

### Attachment

Persons Contacted

Inspection Procedures

Items Opened, Closed, and Discussed

Acronyms

## REPORT DETAILS

### 1. Summary of Plant Status

During the inspection period, routine operations were conducted in the Feeds Materials Building and other areas of the plant.

### 2. Operational Safety (IP 88020)

#### a. Identification of Safety Controls and related Programs (O1.01)

##### (1) Scope and Observations

Through review of documentation and safety analyses, the inspectors identified the safety programs and components the licensee had implemented at the Honeywell facility and evaluated the adequacy of these programs and components in ensuring the safe operation of the facility. The inspectors selected different process trains for review of the implementation of safety controls, procedures, operational and maintenance practices, control room operation and communication of changes or safety significant issues to all personnel. The inspectors verified that the requirements specified in the licensee's safety analysis for the selected processes which included active engineered and passive controls were in place, in good condition, were being surveyed and maintained, and that the present condition of the facility did not diminish their functions (i.e., obstruction, leaks, clogging, degradation, etc.). Examples of components inspected included smoke detectors, pressure and temperature indicators, level controls, video monitoring, control room alarms, and isolation valve. Records reviewed for selected controls showed the licensee was ensuring they were available and capable of functioning in accordance with design specifications.

Interviews with operators demonstrated they were knowledgeable in the process areas in which they were qualified to work. They adequately provided information regarding steps in the procedures, proper response to alarms, availability of process safety information, actions to take in case of an unusual event or emergency, communication of safety concerns to superiors, safety practices when conducting maintenance activities and proper selection of personal protective equipment for their assigned tasks.

The operators also provided positive feedback regarding the licensee's implementation of the training program. Operators indicated more robust presentation of information, coupled with guidance from operators expert in the area in which they are being qualified, has resulted in them being more knowledgeable of the process and the requirements specified in the procedures. The inspectors noted that recently hired operators confidently answered questions and knew where to turn in case they could not answer a question. The inspectors also inquired about events in the past that had resulted in a release of material or exposure to personnel. Operators were able to generally describe these events, their root causes, and what precautions they should take as lessons learned from these events.

(2) Conclusion

Management and administrative practices were found to be adequate. Improvements to the facility operations, maintenance and training programs contributed to improved performance in this area. The plant is operating in accordance with the documented safety analyses.

b. Implementation of Safety Controls (O1.02)

(1) Scope and Observations

The inspectors verified that material condition and “as-found” configuration of the facility including structures, equipment, documentation, personnel, and safety controls, conformed to the regulation and license requirements and were appropriate to protect worker and public safety during normal, off-normal, and accident conditions. Selected safety controls were inspected to ensure that preventive maintenance, calibration and periodic surveillance were performed and documented. Review of licensee records and observations of these controls demonstrated the licensee met the requirements of the license for the implementation of process safety controls.

Interviews with operators demonstrated they knew the functions of the active, passive and enhanced passive controls, what action was expected of them in case of their activation or malfunction, and how they were to implement these controls in accordance with the procedures and training received.

The inspectors reviewed procedures for a representative sample of processes in the facility. The inspectors noted that the current revisions of the procedures were the ones available to operators both in hard copy and in the computer system. Operators were observed printing procedures to take with them for actions out in the process floor. The inspector observed operators checking for any recent changes by looking at the revision number in the electronic copy. The procedures contained information about the safety controls integrated into the different steps. Operators demonstrated they knew which steps or steps were describing actions related to the safety controls pertinent to that given process. Review of selected Process, Information & Diagram confirmed that procedures were in agreement with current configurations of the process area inspected.

(2) Conclusion

The licensee adequately implemented safety controls through appropriate maintenance practices, proper configuration control of the processes and with adequate qualification of operators.

c. Safety Control Support Programs (O1.03)

(1) Scope and Observations

The inspectors reviewed the licensee's management measures for the maintenance program that were established and implemented to ensure the selected safety controls are reliable and available when needed. Through interviews with operators and maintenance personnel, and review of documentation and maintenance instructions, the inspectors confirmed that the licensee implemented practices in accordance with vendor instructions, that functional testing of equipment was testing the correct aspects of the safety control parameters and that post-maintenance verifications were conducted with operations validation of the maintenance work. Review of the most recent modifications demonstrated that the licensee had followed the change control procedure ensuring that changes were reviewed by qualified personnel and upon approval that these changes were implemented into process drawings, procedures, emergency planning documents, employee's training and/or any applicable area in the plant.

(2) Conclusion

The management measures for programs established by the licensee to support the proper function and reliability of safety controls in the facility adequately ensured the safe operation of the facility.

d. Follow up on previously Identified Issues and Events (O1.04) -

- (1) During this inspection, the inspectors continued with a followup of the licensee's corrective actions as a result of a uranium hexafluoride/hydrogen fluoride ( $UF_6/HF$ ) releases at the facility. Details of these events are in Augmented Inspection Team Report No. 40-3392/2004-001 and Special Inspection Team Inspection Report No. 40-03392/2006-003. The inspectors reviewed licensee's activities in the areas of Plant Operations, Maintenance and Surveillance, and Management Organization and Controls.

The inspectors observed Feed Materials Building (FMB) control room activities and routine plant operations. The inspectors observed that plant operations were performed safely and in accordance with procedural requirements and that personnel had procedures "in-hand," as applicable. The inspectors interviewed operators and reviewed procedure manuals for the fluorination, green-salt, and distillation processes to verify that appropriate operating procedures were used. The inspectors noted that operators were knowledgeable of the operating procedures. The inspectors noted that operations log books were current and descriptive for activities conducted during the shift. During shift turnover, control room supervisors and operators conveyed relevant process conditions to incoming personnel, who reviewed the log books prior to assuming duties.

(Closed) VIO 40-3392/2005-006-002: Failure to insure control of control room procedures. The licensee removed the affected operator aid from the FMB control room and from the Document Management System. A review of all authorized operator aids were conducted and identified deficiencies were corrected. The licensee briefed plant personnel on their responsibilities in the development, posting, use, review and removal of operator aids. The inspectors have no further issues and this item is closed.

(Discussed) VIO 40-3392/2005-004-001: Failure to implement the procedural requirements for an inoperative control room alarm procedure. The licensee is in the process of implementing an overall response and improvement project. The improvement project included definition of alarms, operational indicators, spurious and expected alarms. The licensee is evaluating which annunciators are actually being used as operational/process indications as oppose to alarms and will develop modifications to the panels to make the differences obvious. Modifications of applicable procedures were made to incorporate the desired responses based on definition of the annunciator. This item remains open until corrective actions are completed.

(2) Conclusion

The inspectors determined that reviewed activities were conducted safely and in accordance with applicable procedures. Corrective actions for the enhancement of procedure adherence were adequately implemented.

**3. Maintenance and Surveillance (IP 88025)**

a. Follow up on Previously Identified Issues (F1.04) -

(1) Scope and Observations

The inspectors reviewed the licensee's conduct of maintenance to ensure that maintenance work did not adversely impact the safety of plant operations or the workers. The inspectors observed a line break as part of the primary cold trap cleaning activities to ensure the work was performed safely.

The inspectors noted that a safety review was performed before beginning work. The safety reviews were conducted using work permits and included the required pre-job briefings. The inspectors observed pre-job briefings and determined they provided adequate communication between operations and maintenance to ensure that safety precautions were covered, including actions to take for unexpected conditions. The maintenance packages contained the required information for the safe completion of the work. The inspectors also noted that safety & health, and hot work permits were completed.

The maintenance operators wore adequate personal protective equipment and followed the required procedures for line breaks and UF<sub>6</sub> handling. When interviewed, operators were able to satisfactorily explain the safety requirements, and the actions needed to bring the system back to safe operation. The inspectors interviewed operators in the control room to verify they were following the maintenance activities. The operators provided the inspectors with information detailing the maintenance process from scheduling to completion. No safety issues were identified.

(2) Conclusion

The observed maintenance activities in the FMB were properly performed according to maintenance authorizations, work control procedures, and permits.

**4. Management Organization and Controls (IP 88005)**

a. Follow up on Previously Identified Issues (F5.07) -

(1) Scope and Observations

The inspectors reviewed a selective sample of the licensee's activities to improve procedures, training, conduct of operations, management oversight, and corrective actions. Although these activities were not regulatory requirements, these improvements were a subset of plant wide enhancements that the licensee committed to complete to the NRC during public meetings after the 2003 Site Area Emergency and past Licensee Performance Review meetings. The commitments were captured in the Honeywell Matrix Table in Inspection Report 40-3392/2005-05.

In the procedure area the licensee implemented a logbook keeping procedure and an abnormal condition procedure manual. The inspectors verified implementation of these procedures in the FMB noting no safety problems.

In the training area, the licensee implemented a supervisory and management training program that included monthly and quarterly training sessions. Some of the topics covered during the training included labor relations, "5S Concept," leadership, and aqueous hydrofluoric acid awareness training. The licensee also implemented monthly training sessions related to the implementation of the new NRC license and a conduct of operations training. Some of the topics discussed included lessons learned from previous events, procedure use, shift turnover, pre-job briefings, logbook keeping, investigation of abnormal events, notifications, and control of equipment and system status. The inspectors reviewed lesson plans and interviewed operations personnel and noted no safety issues.

The licensee also developed job performance measures (JPMs) for the FMB and training matrixes which established training requirements for each available job in the FMB. The inspectors reviewed several JPMs for the fluorination area and several training matrixes related to the FMB. No safety issues were identified.

In the area of conduct of operations the licensee implemented a revised overtime guidance policy consistent with NRC guidelines and evaluated shift and scheduling of operations personnel to reduce operator fatigue. No safety problems were identified.

In the area of management oversight and corrective actions the licensee implemented the Health, Safety & Environment (HS&E) Council, which performs monthly inspections focused in housekeeping and safety. The licensee also established an Independent Review Board (IRB). The inspectors note that the IRB conducted two audits in 2006. The latest IRB audit was focused on evaluating the licensee readiness with respect to the implementation of the new NRC License Application. The inspectors reviewed several reports for the HS&E Council and IRB and did not identify safety issues. In addition, the licensee is having biannual meetings with senior managers to discuss the progress of the facility.

The inspectors examined several licensee/NRC corrective action issues to assess the overall performance of the licensee's electronic corrective actions tracking system (E-CATS). Although the inspectors did not identify any safety significance problems, the inspectors did notice a large backlog of overdue items. In addition, the licensee was in the process of implementing a new incident tracking/corrective action program (IT/CA). In addition to tracking corrective actions, the new program would incorporate lessons learned and included a better system to create reports and identify data trends. An inspector follow up item (IFI 40-3392/2007-001-01) was opened to track the licensee progress and implementation of the corrective action program.

(2) Conclusion

The inspectors determined that the reviewed licensee efforts to improve procedures, training, conduct of operations, management oversight, and corrective actions were adequate.

**5. Exit Meeting Summary**

The inspection scope and results were summarized on March 1, 2007, and discussed with the licensee. The inspectors described the areas inspected and discussed in detail the inspection results. Although proprietary documents and processes were reviewed during this inspection, the proprietary nature of these documents or processes is not included in this report. No dissenting comments were received from the licensee.

## ATTACHMENT

### 1. PARTIAL LIST OF PERSONS CONTACTED

- \*D. Edwards, Plant Manager
- \*S. Patterson, Health Physics Supervisor
- \*D. Mays, Environmental, Health and Safety Manager
- \*B. Vandermeulen, Quality Assurance/Supply Chain Manager
- \*J. Reily, Regulatory Affairs

\* Denotes those present at the exit meeting on March 1<sup>st</sup>, 2007

Other licensee employees contacted included engineers, technicians, and office personnel.

### 2. INSPECTION PROCEDURES USED

- IP 88005 Management Organization and Control
- IP 88055 Maintenance and Surveillance
- IP 88020 Operational Safety

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

- |                     |     |           |   |
|---------------------|-----|-----------|---|
| 40-3392/2007-001-01 | IFI | Open      | Implementation of the corrective action program (Paragraph 4.a)   |
| 40-3392/2005-006-02 | VIO | Closed    | Failure to insure control of control room procedures (Paragraph 2.d)  |
| 40-3392/2005-004-01 | VIO | Discussed | Failure to implement the procedural requirements for an inoperative control room alarm procedure. (Paragraph 2.d) |

### 4. LIST OF ACRONYMS USED

- |                 |  |
|-----------------|--|
| ADAMS           | Agency Document Access and Management System |
| CFR             | Code of Federal Regulations                  |
| FMB             | Feed Materials Building                      |
| HF              | Hydrofluoric acid                            |
| HS&E            | Health, Safety and Environmental             |
| IFI             | Inspector Followup Item                      |
| IP              | Inspection Procedure                         |
| IRB             | Independent Review Board                     |
| JPM             | Job Performance Measures                     |
| NRC             | Nuclear Regulatory Commission                |
| UF <sub>6</sub> | Uranium Hexafluoride                         |
| VIO             | Violation                                    |