

July 19, 2002

Mr. J. William Lessig  
Plant Manager  
Honeywell International, Inc.  
P.O. Box 430  
Metropolis, IL 62690

SUBJECT: NRC INSPECTION REPORT 04003392/2002-004(DNMS)  
AND NOTICE OF VIOLATION - HONEYWELL

Dear Mr. Lessig:

On June 28, 2002, 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. The NRC inspector discussed the findings with members of your staff at the conclusion of the inspection on June 28.

Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection included 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 determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding the violation are described in the enclosed report. The violation was cited for the failure to submit the effluent monitoring report required by 10 CFR 40.65(a)(1).

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.

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/reading-rm/adams.html>* (the Public Electronic Reading Room).

W. 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

Enclosures: 1. Notice of Violation  
2. Inspection Report No. 04003392/2002-004(DNMS)

cc w/encls: T. Ortziger, Illinois Department  
of Nuclear Safety

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Docket File  
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## NOTICE OF VIOLATION

Honeywell Specialty Chemicals  
Metropolis Works

Docket No. 04003392  
License No. SUB-526

During an NRC routine inspection conducted from June 24 through June 28, 2002, a violation of NRC requirements was identified. In accordance with NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," the violation is listed below:

10 CFR 40.65(a) requires that the licensee submit a report to the appropriate NRC Regional Office within 60 days after January 1 and July 1 of each year specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and in gaseous effluents during the previous six months of operation, and such other information the Commission may require to estimate the maximum potential annual doses to the public resulting from effluent releases.

Contrary to the above, as of June 26, 2002, the licensee had not submitted the required report for the six month operating period ending December 31, 2001.

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

Pursuant to the provisions of 10 CFR 2.201, Honeywell Specialty 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 III, 801 Warrenville Road, Lisle, Illinois 60532-4351, 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 the violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation; (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 Notice of Violation response may reference or include previously 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 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, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR 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 bases for your claim of withholding (for example, explain why the disclosure of

information will create an unwarranted invasion of personal privacy, or provide the information required by 10 CFR 2.790(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 19th day of July 2002

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 04003392

License No. SUB-526

Report No. 04003392/2002-004(DNMS)

Licensee: Honeywell International, Inc.

Facility: Metropolis Works

Location: P.O. Box 430  
Metropolis, Illinois

Dates: June 24 through 28, 2002

Inspector: Mary L. Thomas, Resident Inspector  
Paducah Gaseous Diffusion Plant

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

**EXECUTIVE SUMMARY**  
**Honeywell International, Incorporated**  
**Metropolis Works**  
**NRC Inspection Report 04003392/2002-004(DNMS)**

This inspection included aspects of the licensee's radioactive waste management and environmental protection programs.

Waste Generation and Shipment

- The licensee was complying with its procedures regarding radioactive waste management. The licensee was taking timely and effective corrective actions in response to issues involving radioactive waste shipments. (Section P1.1)

Low-level Radioactive Waste Storage

- The licensee had procedures regarding low-level radioactive waste storage, and the licensee did not consider drums of "hot-trash" to be radioactive waste storage. The licensee had several uranium recovery projects that were not being actively worked at the time of the inspection. (Section P1.2)

Radioactive Waste Management

- The licensee maintained the radioactive waste management and environmental protection programs as identified in the license application. Effluent concentrations and the annual doses to members of the public extrapolated from the air effluent concentration data available during the inspection met the requirements of 10 CFR 20. Monitoring results for the period June 2000 through May 2002 were below the action levels identified in Chapter 4 of the license with the exception of the second quarter 2001 nearest resident air sampler. The licensee followed the license requirement to submit a written report to the Nuclear Regulatory Commission and took appropriate corrective actions to address the elevated result. There was one violation identified in that the January 01, 2002 effluent monitoring report required by 10 CFR 40.65(a)(1) had not been submitted. (Section P1.3)

## Report Details

### I. Plant Support

#### **P1 Waste Generation, Radioactive Waste Management , and Environmental Protection**

##### **P1.1 Waste Generation and Shipment**

###### **a. Inspection Scope (84850)**

The inspector reviewed the licensee's written procedures for radioactive waste processing, the most recent quality assurance audit, the most recent waste manifests, waste classification documentation and records, waste form and characterization documentation and records, waste shipment procedures and tracking system records, and procedures and records incorporating the disposal site license conditions.

###### **b. Observations and Findings**

The inspector observed that the licensee was complying with its procedures, and that it had incorporated the disposal site license conditions in its packaging and shipment procedures. The inspector identified an error in the computer manifest preparation system such that the net weight was entered in two places on the uniform shipping manifest versus the net weight in box one of the uniform shipping manifest and the gross weight in column eight. The inspector discussed this error with the cognizant licensee representative who then prepared test data to confirm the error and ran the test data in both modes, net and gross, to determine which one gave the gross weight required by 10 CFR part 20 Appendix G, Section I.C.4. The inspector confirmed that the instructions for completing the shipping manifest required the gross weight. Through discussions with the cognizant licensee representative, the inspector learned that the licensee used the net weight in both places when the shipping container was not returned to the licensee and that in December 2000 an error in the weights was noted by the licensee such that a memorandum was sent to the waste disposal site requesting that they amend the manifest to reflect the correct weights. The inspector had no further questions concerning radioactive waste management.

During the previous inspection of this area, June 26-29, 2001, Inspection Report 04003392/2001-003, the licensee contamination surveys of the packages shipped to a licensed disposal facility showed no detectable surface contamination, yet the disposal facility's receipt surveys showed contamination on six of the last nine shipments. The licensee was attempting to resolve this discrepancy. Through discussions with the cognizant licensee representative, the inspector learned that a series of emails between the disposal facility and the licensee indicated that the disposal facility used a masslin swipe around the perimeter of the lid where the lid fits down upon the container. A representative of the disposal facility explained that this was the area where contamination was likely to be found. The licensee explained to the disposal facility that they washed the outside of the container prior to shipment and applied a sealant to the lid to prevent any outleakage of material or inleakage of water. The licensee believed that the contamination was likely to occur during transport. Since the last inspection there has been no recurrences of this issue.

c. Conclusions

The licensee was complying with its procedures regarding radioactive waste management. The licensee was taking timely and effective corrective actions in response to issues involving radioactive waste shipments.

P1.2 low-level Radioactive Waste Storage

a. Inspection Scope (84900)

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

b. Observations and Findings

The inspector verified that the licensee had procedures for the storage of low-level radioactive waste. Through discussions with the cognizant licensee representative, and tour of the site, the inspector observed that the licensee had several drums located at various points throughout the site. These drums were labeled "hot-trash"; however, the licensee did not consider this to be storage of low-level radioactive waste. The "hot-trash" drums were protected from environmental elements. The licensee stated that the drums would be surveyed, sealed, and labeled when they were full and ready for shipment. In addition, the inspector observed that access control to the areas where the drums were present was through either of two posted gates.

The inspector observed other storage drums during the inspection which included hard-ore and bed material filter fines. Some of these drums had lost their integrity and one section of bed material filter fines drums had shifted such that a drum of this material was laying on the floor. The licensee took corrective actions to upright this drum. Regarding the other observed drums, the licensee had plans to put the hard-ore into their system to make uranium hexafluoride and to recover the uranium from the bed material filter fines drums. However, the licensee was not actively working either of these projects at the time of this inspection.

The inspector also observed drums of material located on the East Pad. Most of these drums contained sulfur from the sulfur hexafluoride portion of the site. The licensee had been in the process of cleaning up these drums, but was not actively working this project at the time of the inspection.

c. Conclusions

The licensee had procedures regarding low-level radioactive waste storage, and the licensee did not consider drums of "hot-trash" to be radioactive waste storage. The licensee had several uranium recovery projects that were not being actively worked at the time of the inspection.

P1.3 Radioactive Waste Management and Environmental Protection

a. Inspection Scope (88035 and 88045)

The inspector reviewed the licensee's program for radioactive waste management to determine whether the licensee was complying with regulations and license requirements related to the release and disposal of liquid, airborne, and solid waste, and the reporting of waste disposal to the NRC.

b. Observations and Findings

Direct Radiation Monitoring

The licensee maintained eight gamma radiation monitoring locations surrounding the Metropolis facility with six in unrestricted areas and two in restricted areas of the plant. Direct radiation monitoring was conducted using environmental thermoluminescent dosimeters (TLDs). The TLDs were collected by the licensee and read quarterly by the licensee's dosimetry provider. The inspector reviewed the direct radiation monitoring data for calendar year 2001 and the first quarter of 2002. The data indicated that all unrestricted areas being monitored were well below the target value of less than 100 millirems/year (<1.0 mSv).

Air Effluent Monitoring

The inspector reviewed the air effluent sample results for the period June 2000 through May 2002 for continuous environmental air samplers located onsite at the fence line and on the owner-controlled property. The sample's average concentrations were below the 10 CFR Part 20 annual average concentration for natural uranium of  $9 \times 10^{-14}$  microcuries per milliliter ( $\mu\text{Ci/ml}$ ). However, during the second quarter of 2001 the licensee exceeded their quarterly reporting limit of  $3.0 \times 10^{-14} \mu\text{Ci/ml}$  natural uranium at the nearest resident air effluent sampler. Per section 4.1.1 of the license, when this limit is exceeded the licensee must develop a written report and submit it to the Commission within 30 days specifying what actions are being taken to reduce the effluent. The second quarter 2001 average at this sampler was  $3.73 \times 10^{-14} \mu\text{Ci/ml}$  natural uranium. The licensee submitted a written report of the exceedance to the NRC, dated July 31, 2001. The report stated that the cause for the exceedance was the relocation of the "hard-ore" on the northeast ore storage pad. As corrective actions the licensee noted that the "hard-ore" relocation project had been completed. The inspector reviewed the written report and had no further concerns. Quarterly determinations of the radium-226 and thorium-230 concentrations (uranium progeny) and the uranium solubility fractions were performed as required for use in determining the dose to the maximally exposed member of the public.

Liquid Effluent Monitoring

The inspector reviewed the liquid effluent sample results for the monitor located at the licensee's outfall discharging to the Ohio River. The inspector noted that the results showed an average natural uranium concentration for the period January through June 2001 that was below the 10 CFR Part 20 limit for natural uranium ( $3 \times 10^{-7}$  microcuries per milliliter). The licensee discharged approximately 3.3 million gallons of water per day through the outfall. The concentration of uranium in the liquid effluent discharged to

the Ohio River through the effluent weir (Outfall 002) was continuously sampled using a composite sampler and was below the licensee's action level of one part per million.

#### Vegetation and Soil Sampling

The licensee collected semiannual vegetation and soil samples during 2000-2001 in accordance with the requirements in Chapter 4 of the license. The inspector reviewed the vegetation and soil data and determined that as in previous years, the only samples with elevated readings were the sediment samples taken from the effluent ditch leading to the Ohio River. As indicated above, the slight levels of uranium contamination in the effluent yielded quantities of uranium because of the large volume of effluent released on a daily basis. The ditch was contained on the owner-controlled area of the site. Water samples taken at and near the confluence of the ditch with the Ohio River did not yield any results above background, indicating that the uranium had settled out of the stream before reaching the Ohio River. Vegetation samples were taken both onsite and offsite and analyzed for uranium and fluoride concentrations, with no adverse trends noted. All vegetation sample results were below the target value of 30 picocuries/gram (pCi/g) uranium. Soil and sediment samples were taken at the site fence line, effluent ditch, and at other locations around the community, with no adverse trends noted. However, the effluent ditch results (owner controlled property) and onsite samples continued to indicate detectable levels of contamination as in past years.

#### Report of Effluent Monitoring

The inspector reviewed the most recent effluent monitoring data and asked to see the report due within 60 days after January 1 of each year as required by 10 CFR 40.65(a)(1). The inspector reviewed the data, which covered the period of July 1, 2001 to January 1, 2002, and determined that the licensee's effluent releases were below the limits for natural uranium given in 10 CFR Part 20, Appendix B, Table 2. Through discussions with the cognizant licensee representative the inspector learned that the required report had not been submitted. The failure to submit the required effluent monitoring report in accordance with 10 CFR 40.65(a)(1) is a violation (VIO 04003392/2002-004-01).

#### Liquid and Airborne Effluent Monitoring Instruments

The inspector reviewed the liquid and airborne sample analysis procedures and determined that the licensee began using the kinetic phosphorescence analyzer (KPA) they bought as a replacement for their fluorimeter. The sample analysis procedures in the health physics procedure manual had not been updated to reflect use of the new analyzer. These procedures used the phrase: "Fluorimeter or equivalent" to permit the licensee to use a different analyzer. The licensee initiated a request for modification on June 1, 2001, which stated that there would be a period of comparative testing prior to accepting the analytical results using the KPA instrument. Through discussions with the cognizant licensee representative, the inspector learned that this period of comparative testing ended in October 2001 and that new procedures had been developed, but were not yet approved. The inspector toured the KPA room and observed that standard operating procedures for the KPA instrument were posted and that a user's manual was also available. The fluorimeter was no longer in use and had been removed from the KPA room. The inspector had no further concerns in this area.

c. Conclusions

The licensee maintained the radioactive waste management and environmental protection programs as identified in the license application. Effluent concentrations and the annual doses to members of the public extrapolated from the air effluent concentration data available during the inspection met the requirements of 10 CFR 20. Monitoring results for the period June 2000 through May 2002 were below the action levels identified in Chapter 4 of the license with the exception of the second quarter 2001 nearest resident air sampler. The licensee followed the license requirement to submit a written report to the Nuclear Regulatory Commission and took appropriate corrective actions to address the elevated result. There was one violation in that the January 01, 2002 effluent monitoring report required by 10 CFR 40.65(a)(1) had not been submitted.

**P8 Miscellaneous Open Item Closure (92701)**

P2.1 (Closed) LER 04003392/2001-227-00: The inspector discussed the missing calcium fluoride shipment with the cognizant licensee representative. The shipment had been dumped on a farm in Texas by the truck driver, who had forged the manifest with respect to the landfill weight ticket. The landfill never received the shipment. The trucking company mobilized a remediation team, including a licensee representative. The shipment was successfully remediated and sent to the appropriate Texas landfill. The inspector had no further concerns in this area. This event is closed.

**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 June 28, 2002. 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. Dodge, Environmental Manager
- \* D. Mays, Safety Manager
- \* H. Roberts, Health Physics Manager
- \* N. Rodgers, Health Physics Specialist
- \* M. Shepard, Manager, Regulatory Compliance

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

- \* Denotes those attending the exit meeting on June 28, 2002

## INSPECTION PROCEDURES USED

- IP 84850 Radioactive Waste Management - Inspection of Waste Generator Requirements of 10 CFR Part 20 and 10 CFR Part 61
- IP 84900 Low-Level Radioactive Waste Storage
- IP 88035 Radioactive Waste Management
- IP 88045 Environmental Protection
- IP 92701 Followup

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

- |                       |     |   |
|-----------------------|-----|---|
| 04003392/2002-004-001 | VIO | The January 01, 2002 effluent monitoring report required by 10 CFR 40.65(a)(1) had not been submitted . |
|-----------------------|-----|---|

### Closed

- |                      |     |   |
|----------------------|-----|---|
| 04003392/2001-227-00 | LER | EN 38227 - Missing Shipment of CaF settling pond cleanup waste. |
|----------------------|-----|---|

### Discussed

None

## ACRONYMS and INITIALISMS

ADAMS	Agencywide Document Access and Management System
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Material Safety
IP	Inspection Procedure
KPA	Kinetic Phosphorescence Analyzer
LER	Licensee Event Report
$\mu\text{Ci/ml}$	microcurie/milliliter
mrem	millirem
mSv	millisievert
pCi/g	picocurie/gram
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PDR	Public Document Room
PERR	Public Electronic Reading Room
TLD	Thermoluminescent Dosimeter