



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

July 28, 2017

EN 52488

Mr. Jeff Fulks
Plant Manager
Honeywell Metropolis Works
P.O. Box 430
Metropolis, IL 62960

SUBJECT: HONEYWELL METROPOLIS WORKS – NOTICE OF VIOLATION AND NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 40-3392/2017-003

Dear Mr. Fulks:

This letter refers to the inspections conducted from April 1 to June 30, 2017, at the Honeywell Metropolis Works facility in Metropolis, IL. The purpose of the inspections was to determine whether activities authorized under the facility's license were conducted safely and in accordance with Nuclear Regulatory Commission (NRC) requirements. The enclosed report presents the results of the inspections. The findings were discussed with members of your staff at exit meetings held on May 17, 2017, and June 22, 2017, for this integrated inspection report.

During the inspections, the NRC staff examined activities conducted under your license, as they related to public health and safety, to confirm compliance with the Commission's rules and regulations and with the conditions of your license. The inspections covered the areas of radiological controls and facility support. Within these areas, the inspections consisted of examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of these inspections, the NRC has determined that a Severity Level IV violation of NRC requirements occurred. The violation was evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at (<http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>). The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. The violation is being cited in accordance with Section 2.3.2.b of the NRC enforcement Policy because the licensee did not identify the violation.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC review of your response to the Notice will also determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with Title 10 of the *Code of Federal Regulations*, Section 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning the inspections, please contact me at (404) 997-4629.

Sincerely,

/RA/

Marvin D. Sykes, Chief
Projects Branch 1
Division of Fuel Facility Inspection

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

Enclosures:

1. Notice of Violation
2. NRC Inspection Report No. 40-3392/2017-003
w/Attachment: Supplementary Information

cc: (See page 3)

cc:

James Joseph, Director
Emergency Management Agency
Division of Nuclear Safety
2200 South Dirksen Parkway
Springfield, IL 62704

Brigadier General John W. Heltzel, Director
Kentucky Emergency Management Agency
EOC Building
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Jerome Mansfield, Director
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Keith E. Davis, Director
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Peter Dessaulles, Director
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Scott Deming, Director
Massac County Emergency Management Agency
1 Superman Square, Room 1B
P.O. Box 716
Metropolis, IL 62960-0716

SUBJECT: HONEYWELL METROPOLIS WORKS – NOTICE OF VIOLATION AND NUCLEAR REGULATORY COMMISSION INTEGRATED INSPECTION REPORT 40-3392/2017-003

DISTRIBUTION:

T. Grice, NMSS
 M. Sykes, RII
 T. Liu, NMSS
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 N. Peterka, RII

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 ADAMS: Yes ACCESSION NUMBER: ML17212A701... SUNSI REVIEW COMPLETE FORM 665 ATTACHED

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NOTICE OF VIOLATION

Honeywell Metropolis Works
Metropolis, IL

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

During an NRC inspection conducted from June 19 through 22, 2017, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is described below:

Honeywell's Materials License SUB-526, License Condition 18, states in part, "The Licensee shall conduct authorized activities at the Honeywell Metropolis Works Facility in accordance with the statements, representations, and conditions in the License Application, dated February 28, 2011."

Honeywell's License Application, Section 2.6.1, states in part, that the licensee shall require that process operations requiring procedural guidance be conducted in accordance with approved procedures.

Licensee approved procedure MTW-SOP-SMP-0214, Section 5.1.1, states in part, "After drums have been washed and brought to the staging area, then inspect each drum for the following: 1) visible signs of metal fatigue or reduction in metal thickness; 2) hole or puncture of any size; 3) deeply gouged by any means (i.e., the forklift forks); 4) major corrosion (e.g., pitting or deep corrosion which is not removable); 5) open end lip, and etc." Section 5.1.2 of the procedure states, in part, "If any of the conditions identified in step 5.1.1 exist, then ensure drum is placed in an over pack drum before shipment."

10 CFR 71.5(a) states in part, "Each licensee who transports licensed material outside the site of usage, as specified in the NRC license or where transport is on public highways shall comply with the applicable requirements of the Department of Transportation (DOT) regulations in 49 CFR parts 107, 171 through 180, and 390 through 397, appropriate to the mode of transport.

49 CFR 173.427(a)(6)(ii), states in part, that for Low Specific Activity (LSA) material consigned as exclusive use there may be no loose radioactive material in the conveyance; however, when the conveyance is the packaging, there may not be any leakage of radioactive material from the conveyance.

Contrary to the above, on January 10, 2017, the licensee did not conduct authorized activities in accordance with the statements, representations, and conditions in the License Application to prevent leakage of radioactive material from the shipping trailer (or conveyance). Specifically, the licensee failed to conduct process operations in accordance with the approved procedure for the inspection and preparation of calcined recovered ore (CRO) drums prior to shipment. The failure to inspect the condition of the drums and place them in over packs in accordance with the procedure resulted in leakage of radioactive material while in transit to a recipient in the state of Utah.

This is a Severity Level IV violation (Section 6.8 of the NRC Enforcement Policy)

Enclosure 1

Pursuant to the provisions of 10 CFR 2.201, Honeywell Metropolis Works is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, 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; 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 requiring information 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, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Your response will be made available electronically for public inspection in the NRC Public Document Room or in the NRC's Agencywide Documents Access and Management 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. 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 (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. If Classified Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR Part 95.

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

Dated this 28th day of July 2017

**U.S. NUCLEAR REGULATORY COMMISSION
REGION II**

Docket No.: 40-3392

License No.: SUB-526

Report No.: 40-3392/2017-003

Licensee: Honeywell International, Inc.

Facility: Metropolis Works

Location: Metropolis, IL 62960

Inspection Dates: April 1 to June 30, 2017

Inspectors: R. Gibson, Senior Fuel Facility Inspector (Sections A.2, C.1)
N. Peterka, Fuel Facility Inspector (Section B.1)
L. Pitts, Senior Fuel Facility Inspector (Section B.1)
J. Rivera-Ortiz, Senior Fuel Facility Inspector (Section B.1)
P. Startz, Fuel Facility Inspector (Section A.1)

Approved by: M. Sykes, Chief
Projects Branch 1
Division of Fuel Facility Inspection

Enclosure 2

Honeywell Metropolis Works
NRC Integrated Inspection Report 40-3392/2017-003
April 1 – June 30, 2017

The Nuclear Regulatory Commission (NRC) regional inspectors conducted inspections during normal shifts in the area of radiological controls and facility support. The inspectors performed a selective examination of licensee activities that were accomplished by direct observation of safety-significant activities and equipment, tours of the facility, interviews and discussions with licensee personnel, and a review of facility records.

Radiological Controls

- The inspectors reviewed a sample of activities in the radiological controls area, specifically in the effluent control and environmental protection, to verify compliance with conditions of the license and regulatory requirements. No violations of more than minor significance were identified. (Paragraph A.1)
- The inspectors also reviewed a sample of activities in the radiological controls area, specifically in transportation of radioactive material, to verify compliance with conditions of the license and regulatory requirements. No violations of more than minor significance were identified. (Paragraph A.2)

Facility Support

- The inspectors observed the planning and execution of the graded biennial emergency exercise to verify it was implemented in accordance with the Emergency Plan and associated procedures. No violations of more than minor significance were identified. (Paragraph B.1)

Other Areas

- The inspection of radiological controls included the review of Event Notification 52488, “Agreement State Report – Leaking Barrels Containing Radioactive Material,” related to a transportation event that occurred on January 12, 2017. A Severity Level IV (SL-IV) cited violation of NRC requirements was identified for the failure to conduct authorized activities in accordance with the license application, resulting in leakage of radioactive material during transportation. (Paragraph C.1)

Attachment

Key Points of Contact
List of Items Opened, Closed, and Discussed
Inspection Procedures Used
Documents Reviewed

REPORT DETAILS

Summary of Plant Status

The Honeywell Metropolis Works (MTW) uranium conversion facility is located on a 1,100 acre site (60 acres within the fence line) near Metropolis, IL. The licensee is authorized to possess 150 million pounds of natural uranium ore and to convert this material to uranium hexafluoride (UF₆). The uranium conversion process occurs in the Feed Materials Building (FMB). During this inspection period, normal conversion activities were ongoing.

A. Radiological Controls

1. Effluent Control and Environmental Protection (Inspection Procedure 88045)

a. Inspection Scope

The inspectors reviewed samples of environmental programmatic changes, procedures, and operations that had been revised since the last NRC inspection to evaluate if the environmental program and associated procedures remained in compliance with Section 4 of the License Application (LA) SUB-526, revision (Rev.) dated September 18, 2015, and Section 5 of the Safety Determination Report for SUB-526, Rev. 26. The inspectors assessed if the facility process exhaust stacks were continuously sampled to measure the uranium emissions rate, stack filter change-outs, and filter analysis were in compliance with paragraph 4.1.1 of the LA. The inspectors reviewed three audits spanning the years 2016 and 2017 to evaluate compliance with Section 2.7 of the LA. The inspectors also reviewed audit AL455-3EREGCW, dated November 21, 2016, "Report of Analysis/Certificate of Conformance" for environmental samples processed by contractor Teledyne Brown Engineering Environmental Services. The audit evaluated the accuracy and validity of analytical laboratory analysis of Honeywell environmental samples submitted to and processed by that laboratory.

The inspectors performed physical evaluations of processing equipment involved in the final treatment system utilized for processing liquid waste discharges to the Ohio River. The inspectors evaluated the material condition of the treatment system including waste water storage tanks, chemical treatment tanks, filtration systems, settling tanks, and final liquid effluent composite sampling devices for process/storm drainage/sanitary combined discharges. The inspectors observed automated composite sampling equipment and manual sample collection activities of the sanitary and Ohio River discharge outfall. The review included an analysis of calibration records to determine if licensee personnel had maintained sampling devices to ensure the equipment had been maintained in an accurate and functional state. The inspectors reviewed latest available six-month summaries of uranium analytical data results from January 2016 through December 2016, and evaluated whether the monthly and annual data indicated compliance with values described in 10 CFR 20 Appendix B.

The inspectors observed a radiological technician change out stack sample filters on a random number of gaseous effluent exhaust stacks to evaluate compliance with facility procedure MTW-SOP-HP-0209, Rev. 9. Samples of various environmental operating procedures, onsite and offsite laboratory analysis results, data transfer and record keeping, and sampling equipment calibration compliance records were evaluated. The

inspectors evaluated whether the activities had been conducted in accordance with the applicable procedures, at the required frequency, and were in compliance with Section 4.1, "Effluent Control System," of the LA.

The inspectors reviewed property fence line dosimeter results for calendar year 2016 that were used, in part, to calculate the public dose. The inspectors evaluated samples of radiological airborne effluent-specific public dose calculations used to determine if the public dose results remained less than the as low as reasonably achievable (ALARA) constraint on air emissions as required in 10 CFR 20.1101(d). The inspectors assessed whether the annual public dose associated with all licensed activities remained less than 100 mrem/year as required by 10 CFR 20.1301.

The inspectors reviewed samples of environmental monitoring locations for soil, surface water, ambient air, and external radiation immediately around the facility, including the Ohio River, to determine compliance with Section 4 of their LA requirements. The inspectors assessed whether the locations and physical characteristics of the sampling locations were appropriate, would provide satisfactory data, and the equipment was maintained in a fully functional state in accordance with MTW-SOP-HP-0209, Rev. 9; and Section 5 of the Safety Determination Report for SUB-526.

b. Conclusion

No violations of more than minor significance were identified.

2. Inspection of Transportation Activities (Inspection Procedure 86740)

b. Inspection Scope

The inspectors evaluated whether the licensee had established and maintained an effective management-controlled program to ensure radiological and nuclear safety in the receipt, packaging, delivery to a carrier, and, as applicable, private carriage of licensed radioactive materials. The inspectors also evaluated whether observed transportation activities were in compliance with the applicable NRC provisions of 10 CFR Parts 20 and 71, and Department of Transportation (DOT) regulations in 49 CFR Parts 171-178. The observed activities included the preparation of packages by the shipping coordinators for the shipment of 48Y cylinders containing UF₆ to its customers. The observed activities also included the receipt and survey of thin wall 48G cylinders from the Paducah, Kentucky site.

The inspectors reviewed a number of shipping records involving the shipment and receipt of UF₆ cylinders and the shipment of waste materials for disposal. The inspectors verified that the licensee recorded the required information on the packaging and shipping orders such as the transportation index, package activity, labeling, and placards.

The inspectors reviewed training records to ensure that the licensee had administered hazardous materials transportation training to applicable personnel as required by DOT 49 CFR 172.704 and the license. The inspectors observed the shipment, receipt, and surveys of 48Y cylinders for processing. The inspectors also observed the receipt and surveys of 48G cylinders for processing as feed material.

The inspectors verified that the licensee met the 10 CFR 71.21 conditions required to use the general license provision for transport of licensed material. The inspectors reviewed audits of the transportation program to verify that the licensee was performing periodic audits of the program as required by the license application. The inspectors also verified that audit results were appropriately addressed in the licensee's corrective action program (i.e. Incident Tracking and Corrective Action Program or ITCA Program)

The inspectors reviewed ITCA entries (known as Incident Reports or IRs) in the area of transportation for the past 24 months to determine that deviations from procedures and unforeseen process changes affecting transportation were documented and investigated promptly. Also, the inspectors evaluated the corrective actions associated with IRs 17-0065, 17-0554, 16-1666, 16-1227, and 16-0083, and verified that the completed corrective actions were in accordance with the license application.

b. Conclusion

No violations of more than minor significance were identified.

B. Facility Support

1. Evaluation of Exercises and Drills (Inspection Procedure 88051)

a. Inspection Scope

The inspectors reviewed the scenario for the licensee's graded biennial emergency exercise and discussed its objectives with licensee personnel (exercise controllers) before the exercise to determine whether the scenario involved a probable and challenging type of accident for the facility and was adequate to test the elements of the emergency plan. The inspectors discussed with the licensee the administrative controls in place to prevent disclosure of the exercise objectives and details to the participants.

The inspectors observed and evaluated the emergency exercise conducted on May 17, 2017. The scenario included a release of liquid UF₆ as a result of a pipe bellows rupture in the distillation system. Following identification of the release area, initial isolation activities from the FMB control room were planned to be unsuccessful, requiring the dispatching of an entry team to manually isolate the release. The release cloud would be of significant size and density to eventually elevate the incident to a Site Area Emergency. In addition to the chemical emergency, the scenario included the rescue and medical treatment of an incapacitated worker that was unable to evacuate the FMB safely.

At the initiation of the emergency drill, the inspectors verified that the licensee assessed the accident scenario, analyzed the plant condition, and classified the event in accordance with the emergency response procedures. The event was classified as a Site Area Emergency in accordance with the Emergency Plan. The inspectors observed the activation of the Incident Control Point (led by the Incident Commander) and the Emergency Operations Center (EOC), and verified that all required positions were fully staffed in accordance with the Emergency Plan. The inspectors evaluated whether the Incident Commander maintained proper command and control of the emergency response team and coordinated action with the off-site emergency responders. The

inspectors verified that the protective action recommendations implemented by the Incident Control Point were appropriate for the accident scenario in accordance with the Emergency Plan.

The inspectors reviewed the initial offsite notifications to verify these met the timeliness requirements specified in the Emergency Plan and were accurate in content. The inspectors verified that the onsite communications to the occupational workers were consistent with the protective action recommendations implemented by the Incident Control Point. The occupational workers participated in the mobilization to muster stations for accountability and shelter-in-place protective action. The inspectors reviewed the press releases issued by the EOC communicators to verify these were approved by the Crisis Manager prior to issuance and were in accordance with the Emergency Plan.

The inspectors reviewed the offsite dose assessment conducted by the dose assessor using the Radiological Assessment System for Consequence Analysis software. The inspectors verified that the Incident Commander and Crisis Manager utilized the dose assessment, radiation survey results, and environmental monitoring results during the assessment of the accident scenario.

The inspectors observed members of the licensee's emergency response team assemble at the designated assembly area, the arrival of off-site emergency responders, and monitored communications between the licensee and Massac County Emergency Management Agency, City of Metropolis Office of Emergency Management, Massac Memorial Hospital Emergency Room, Massac Memorial Hospital Ambulance Service, Massac County Sheriff's Office, City of Metropolis Police Department, and Illinois State Police. The inspectors observed search and rescue activities performed by the emergency response team and their response to additional emerging situations. The inspectors also observed emergency response activities in the FMB Control Room, including preparation and dispatch of an entry team tasked to manually isolate the UF₆ release. The inspectors evaluated if the emergency response team activities were appropriate for the exercise scenario and were appropriate in meeting the drill objectives.

The inspectors observed the staff critiques of the emergency exercise. The inspectors verified that the critiques accurately identified lessons learned and areas of improvement. The inspectors verified that the items discussed during the critiques were documented and entered in the ITCA Program, as applicable.

b. Conclusion

No violations of more than minor significance were identified.

C. Other Areas

1. Event Follow-up

a. (Closed) Event Notification (EN) 52488, Agreement State Report – Leaking Barrels Containing Radioactive Material

On January 13, 2017, Utah's Division of Waste Management and Radiation Control submitted Event Report 52488 to the NRC describing an event that occurred on

January 12, 2017 involving a TAM International vehicle carrying drums of calcined recovered ore (CRO) from Honeywell International, MTW facility. The inspectors reviewed this issue as part of the inspection activities described in Section A.2 of this report.

The inspectors identified a Severity Level IV (SL-IV) cited violation of NRC requirements during the review of EN 52488 as described in item b below. Event Notification 52488 is closed.

b. (Open) VIO 40-3392/2017-003-01, Failure to Follow Procedure for the Inspection and Preparation of Calcined Recovered Ore Drums

Introduction: The inspectors identified a self-revealing, SL-IV, cited violation of Materials License SUB-526, License Condition (LC) 18, for the licensee's failure to conduct authorized activities in accordance with the license application. The failure to conduct activities in accordance with the license application resulted in a violation of DOT requirements due to leakage of radioactive material during transportation.

Description: On January 6, 2017, Honeywell's sampling plant operators (SPOs) loaded a total of 55 drums of CRO into an exclusive use transport trailer. Each drum had a 55-gallon capacity. The drums were labeled and loaded per standard operating procedure MTW-SOP-SMP-0214, "Inspecting, Loading, and Unloading Uranium Ore Concentrates," Rev. 3. Section 5.3.6 of the procedure requires that a plastic liner be installed on the trailer floor to minimize the potential for contamination on the trailer floor during the loading process. The 55 drums were then secured to prevent shifting during transport.

On January 10, 2017, the trailer was shipped from Honeywell MTW to Energy Fuels, Inc., in Blanding, Utah, as UN 2912, Radioactive Material, Low Specific Activity (LSA) group LSA-1. For the purposes of this shipment, the trailer was considered the conveyance per the definitions in 49 CFR. On January 12, 2017, Honeywell was notified by the recipient that upon removing the drums from the trailer, there were visible signs of contamination onto the floor of the trailer and on the exterior undercarriage of the trailer. The plastic lining was found ripped in the location of the visible contamination. The contamination was attributed to leakage from one of the loaded drums as a result of corrosion on the bottom of the drum. On January 12, 2017, Energy Fuels, Inc. decontaminated the trailer after removing all the drums. Honeywell notified the National Response Center and the regional NRC office (Region II) of the event.

The licensee's investigation estimated that less than two pounds of CRO material exited the drum; however the licensee was not able to determine how much material was left in the transport trailer and how much material exited the trailer. The Utah Division of Waste Management and Radiation Control (DWMRC) performed a contamination survey after Energy Fuels had removed the drums, the damaged plastic, and decontaminated the trailer. Direct frisking determined fixed contamination of 1,470 disintegrations per minute (dpm)/100 cm² on the undercarriage of the trailer, and 29,400 dpm/100 cm² on the floor of the trailer with removable contamination of 287 dpm/100 cm².

Licensee procedure MTW-SOP-SMP-0214, Section 5.1.1, requires each drum be inspected for degradation and placed in an over pack drum before shipment if any of the conditions identified in Step 5.1.1 exist. The inspectors reviewed documentation,

interviewed several SPOs, and reviewed pictures of several drums received by Energy Fuels in the same shipment. The pictures showed that some of the drums had visible signs of degradation, including reduction in metal thickness and major corrosion/rusting with pitting and peeling of the metal. The inspectors determined that the affected drums, particularly the one that leaked, were not adequately inspected and placed in over packs in accordance with procedure MTW-SOP-SMP-0214. Consequently, radioactive material leaked from the shipping trailer (i.e. the conveyance) during transportation.

Analysis: The inspectors determined that the failure to follow procedure MTW-SOP-SMP-0214 for the inspection and preparation of CRO drums was a noncompliance that resulted in a violation of DOT requirements in 49 CFR, as incorporated by reference in 10 CFR 71.5(a). Specifically, the licensee failed to identify degradation of the drums and place them in over packs in accordance with the procedure, which resulted in leakage of radioactive material outside from its package during transport. The noncompliance is more than minor based on screening question 24 of Inspection Manual Chapter 0616, Appendix B, because it involved the breach of a transport package.

The actual safety consequence of the noncompliance was a small release of LSA-1 radioactive material during transport on public highways. Because of the unavailability of contamination levels data prior to the decontamination activities performed by Energy Fuels personnel, the inspectors did not have sufficient objective information to firmly conclude that the NRC limits for contamination levels were exceeded. However, based on the type and the estimated amount of material that leaked from the drum, the inspectors concluded that there was reasonable assurance that the leakage did not result in significant safety consequences to the public. Therefore, the violation was characterized as SL-IV in accordance with Example 6.8.d.1 of the NRC Enforcement Policy.

Enforcement: Honeywell's Materials License SUB-526, LC 18, states in part, "The Licensee shall conduct authorized activities at the Honeywell Metropolis Works Facility in accordance with the statements, representations, and conditions in the License Application, dated February 28, 2011."

Honeywell's LA, Section 2.6.1, states in part, that the licensee shall require that process operations requiring procedural guidance be conducted in accordance with approved procedures.

Licensee approved procedure MTW-SOP-SMP-0214, Section 5.1.1, states in part, "After drums have been washed and brought to the staging area, then inspect each drum for the following: 1) visible signs of metal fatigue or reduction in metal thickness; 2) hole or puncture of any size; 3) deeply gouged by any means (i.e., the forklift forks); 4) major corrosion (e.g., pitting or deep corrosion which is not removable); and 5) open end lip, and etc." Section 5.1.2 of the procedure states, in part, "If any of the conditions identified in step 5.1.1 exist, then ensure drum is placed in an over pack drum before shipment."

10 CFR 71.5(a) states in part, "Each licensee who transports licensed material outside the site of usage, as specified in the NRC license or where transport is on public highways shall comply with the applicable requirements of the DOT regulations in 49 CFR parts 107, 171 through 180, and 390 through 397, appropriate to the mode of transport.

49 CFR 173.427(a)(6)(ii), states in part, that for LSA material consigned as exclusive use there may be no loose radioactive material in the conveyance; however, when the conveyance is the packaging, there may not be any leakage of radioactive material from the conveyance.

Contrary to the above, on January 10, 2017, the licensee did not conduct authorized activities in accordance with the statements, representations, and conditions in the License Application to prevent leakage of radioactive material from the shipping trailer (or conveyance). Specifically, the licensee failed to conduct process operations in accordance with the approved procedure for the inspection and preparation of CRO drums prior to shipment. The failure to inspect the condition of the drums and place them in over packs in accordance with the procedure resulted in leakage of radioactive material while in transit to a recipient in the state of Utah.

This issue was entered into the licensee's ITCA Program as IR 17-0065. As part of the corrective actions, the licensee revised the applicable procedures to include additional instructions and criteria on inspecting the drums for visible corrosion and upgrading drum over pack requirements. The licensee was also maintaining operational sumps on the ore pad to reduce corrosion rate of drums by removing water more efficiently. The licensee developed plans to use stronger plastic liner for future loading of the trailers. Additionally, the licensee provided additional training on the inspection of CRO drums and was evaluating whether to start using Industrial Package (IP-1) sealed containers for similar future shipments.

The failure to follow an operating procedure for the inspection and preparation of CRO drums before shipping, which resulted in leakage of radioactive material, is considered a violation of NRC requirements. This violation is being cited in accordance with Section 2.3.2.b of the NRC enforcement Policy because the licensee did not identify the violation. This violation is cited in the Notice of Violation enclosed to NRC Inspection Report 40-3392/2017-003 (Enclosure 1) and will be tracked as VIO 40-3392/2017-003-01, "Failure to Follow Procedure for the Inspection and Preparation of CRO Drums."

D. Exit Meetings

The inspection scope and results of the Emergency Exercise evaluation were presented to Mark Wolf, Nuclear Compliance Director, and other members the licensee's staff on May 17, 2017. The results of the Transportation and Environmental Protection inspections were presented to Jeff Fulks, Plant Manager, and other members of the licensee's staff on June 22, 2017. Proprietary information was discussed during the meetings but not included in this report.

SUPPLEMENTAL INFORMATION

1. KEY POINTS OF CONTACT

<u>Name</u>	<u>Title</u>
B. Burgess	HP Specialist
S. Chisek	Senior Environmental Engineer
K. Conyers	Transportation Specialist/TAM
J. Cybulski	Site Service Manager
J. Fulks	Interim Site Manager
R. Lindberg	Health Physics Supervisor
C. Metzgar	Health Physics Specialist
S. Patterson	Regulatory Affairs Manager
R. Robertson	Sr. Quality Engineer
R. Sanders	Sr. Quality Engineer
B. Stephenson	Lead Controller
F. Taylor	Supervisor Material Operation
V. Trimble	Sr. Safety Specialist/Interim HSE Manager
M. Wolf	Nuclear Compliance Director

2. LIST OF REPORT ITEMS

<u>Item Number</u>	<u>Status</u>	<u>Title</u>
EN 52488	Closed	Agreement State Report leaking barrels containing radioactive material (Section C.1.a)
VIO 40-3392/2017-003-01	Open	Failure to Follow Procedure for the Inspection and Preparation of CRO Drums (Section C.1.b)

3. INSPECTION PROCEDURES USED

86740	Inspection of Transportation Activities
88045	Effluent Control and Environmental Protection
88051	Evaluation of Exercises and Drills

4. DOCUMENTS REVIEWED

Records:

ALARA Committee Meeting Presentation, December 2016
ALARA Committee Meeting Presentation, March 2017
ALARA Committee Meeting Minutes, December 2016
ALARA Committee Meeting Minutes, March 2017
Audit Reports – BSI Assessment Report, and cylinder Storage internal audit Certification (COC) for 48X or 48Y cylinders

Facility Effluent Report representing the period of January 1, 2016, through June 30, 2016
 Facility Effluent Report representing the period of July 1, 2016, through December 31, 2016
 Health Physics Audit Report AUD-2016-0011 (internal audit), November 22, 2016-February 3, 2017
 Health Physics Audit Report AUD-2016-0010 (internal audit), December 5, 2016-February 3, 2017
 Health Physics Audit Report AUD-2016-0009 (internal audit), December 3, 2015-November 23, 2016
 Inspection Report – DWMRC survey of the leaking shipment, dated January 25-26, 2017
 Root Cause Analysis, ITCA #17-0065
 Semiannual Health Physics ALARA Report, July – December 2016
 Straight Bill of Lading for the shipping and receiving of UF₆ cylinders
 Training records of Yard Operators, Material Handlers and Sampling plant Operators

Procedures:

Honeywell Metropolis Works Emergency Response Plan, Rev. 9, dated May 1, 2017
 MTW-ADM-ENV-0101, "Environmental Shipment of Waste, Rev. 0.
 MTW-ADM-EPIP-0001, Identification and Reporting Of Emergency Conditions, Rev. 4
 MTW-ADM-EPIP-0002, Emergency Classification and Notification, Rev. 15
 MTW-ADM-EPIP-0003, Crisis Management and Incident Command Staff Responsibilities, Rev. 10
 MTW-ADM-EPIP-0004, Emergency Response Organization Activities, Rev. 5
 MTW-ADM-EPIP-0006, Personnel Evacuation and Accountability, Rev. 13
 MTW-ADM-EPIP-0007, Personnel and Equipment Decontamination Under Emergency Conditions, Rev. 2
 MTW-ADM-EPIP-0008, Maintaining Emergency Preparedness, Rev. 10
 MTW-ADM-EPIP-0009, Chemical Release Control, Rev. 7
 MTW-ADM-HP-0106, Control of Liquid Effluents, Rev. 4
 MTW-ADM-REG-0110, Corrective Action Program, Rev. 6
 MTW-FRM-UF₆C-0217A, "Approved Shipping System List For Shipment on Trailers
 MTW-SOP-HP-0104, Control of Gaseous Effluents, Rev. 13
 MTW-SOS-HP-0008, Compliance with Public Radiation Exposure Limits, Rev. 0
 MTW-SOP-HP-0207, Calibration of Flowmeters, Rev. 6
 MTW-SOP-HP-0209, Collecting Environmental Samples, Rev. 9
 MTW-SOP-HP-0214, Determination of Isokinetic Sampling Rate and Uranium Loss Factors, Rev. 5
 MTW-SOP-SMP-0214, Inspecting, Loading, and Unloading Uranium Ore Concentrates, Rev. 3, dated March 15, 2016
 MTW-SOP-SMP-0214, Inspecting, Loading, and Unloading Uranium Ore Concentrates, Rev. 4, dated March 23, 2017
 MTW-SOP-UF₆C-0217, UF₆ Cylinder Shipping and Receiving Inspection, Rev. 12, dated May 11, 2017

Condition Reports Reviewed:

IR-16-0083, IR-16-1227, IR-16-1666, IR-17-0065, IR-17-0554, IR-17-0609
 IR-17-0623, PA speaker malfunction during EP drill, dated May 17, 2017
 IR-17-0669, Opportunities for improvement in the training and the emergency preparedness program identified in the Exercise critique, dated June 16, 2017

IR-17-0757, Corrective action for Operations identified during the Exercise critique, dated June 16, 2017

Condition Report Written as a Result of the Inspection:

IR-17-0771

Other Documents:

Application for Renewal of USNRC Source Material License, SUB-526, Revision dated September 18, 2015

Honeywell-Metropolis Works 2017 Emergency Response Exercise 60 Day Submittal

Incident/Drill Debrief-Honeywell Emergency Response Exercise, dated June 12, 2015

Incident/Drill Debrief-Honeywell Emergency Response Exercise, dated June 23, 2016

Incident/Drill Debrief-Honeywell Emergency Response Exercise, dated June 16, 2017

MTW Safety Demonstration Report, Rev. 26, dated November 17, 2016

MTW Safety Basis and Corrective Action Plan, Response to NRC Confirmatory Order EA 12-157, Rev. 3, dated May 22, 2013