NRC FORM 591FF PART 1
(12-2007)
10 CFR 2.201

U.S. NUCLEAR REGULATORY COMMISSION

INSPECTION REPORT

1. LICENSEE OR CERTIFICATE HOLDER/LOCATION INSPECTED:	2. NRC/REGIONAL OFFICE:
Honeywell International, Inc. P. O. Box 430 Metropolis, IL 62960 REPORT NO: 2009-005	U.S. Nuclear Regulatory Commission Region II 61 Forsyth Street, Suite 23T85 Atlanta, GA 30303-8931

3. DOCKET NUMBER:	4. LICENSE OR CERTIFICATE NUMBER:	5. DATE(S) OF INSPECTION:
40-3392	SUB-526	October 5, 2009 – October 8, 2009

LICENSEE OR CERTIFICATE HOLDER:

The inspection was an examination of the activities conducted under your license or certificate as they relate to safety and/or safeguards and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license or certificate. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

☐ 1. Based on the inspection findings, no violations were identified.

☐ 2. Previous violation(s) closed.

☐ 3. Reported events reviewed

☐ 4. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, to exercise discretion, were satisfied.
Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):

☑ 5. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.
(Violations and Corrective Actions)

(SEE ATTACHED NOV)

LICENSEE OR CERTIFICATE HOLDER STATEMENT OF CORRECTIVE ACTIONS FOR ITEM 5, ABOVE

I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violation(s) identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to the NRC will be required, unless specifically requested.

Title	Printed Name	Signature	Date
LICENSEE/CERTIFICATE HOLDER REPRESENTATIVE			
NRC INSPECTOR	Omar Lopez, Chad Cramer	**/RA/**	11/6/09

NRC FORM 591FF PART 3
(12-2007)
10 CFR 2.201

U.S. NUCLEAR REGULATORY COMMISSION

INSPECTION REPORT

1. LICENSEE OR CERTIFICATE HOLDER/LOCATION INSPECTED:	2. NRC/REGIONAL OFFICE:
Honeywell International, Inc. P. O. Box 430 Metropolis, IL 62960 REPORT NO: 2009-005	U.S. Nuclear Regulatory Commission Region II 61 Forsyth Street, Suite 23T85 Atlanta, GA 30303-8931

3. DOCKET NUMBER:	4. LICENSE OR CERTIFICATE HOLDER NUMBER:	5. DATE(S) OF INSPECTION:
40-3392	SUB-526	October 5, 2009 – October 8, 2009

6. INSPECTOR(S): Omar Lopez and Chad Cramer

7. INSPECTION PROCEDURES USED: 88020, 88055

EXECUTIVE SUMMARY

Summary of Plant Status

The Honeywell Metropolis Works (licensee) uranium conversion facility is located on a 1,100 acre site (60 acres within the fence line). The licensee is authorized to possess 150 million pounds of natural uranium ore and to convert this material to uranium hexafluoride (UF_6). The uranium conversion process occurs in the Feed Materials Building (FMB). During the inspection operations were normal.

This announced inspection included observations and evaluations of the licensee's plant operations and fire protection programs. The inspection involved walk downs of the facility, observation of maintenance activities, reviews of selected records, and interviews with plant personnel.

Plant Operations

- The inspectors walked down plant features and procedures (PFAP) in the FMB including: PFAP 35, PFAP 76, PFAP 77, and PFAP 78. The PFAP's were in place and available to perform their intended safety function.

- The inspectors discussed the licensee's corrective action program with licensee staff. The inspectors determined that the corrective action program was an adequate method for reporting safety issues and following up with corrective actions. No significant issues were identified.

- The inspectors reviewed preventative maintenance procedures for PFAP in the FMB including: 11314, 11298, 1069, 1092, 1094, 21752, 1084, 24721, 1382, 24198. The preventative maintenance procedures were performed in accordance with the licensee's scheduled frequency, and adequately tested the safety function of the PFAP. No significant issues were identified.

- The inspectors reviewed PFAP 37, "automatic temperature overrides and shutdowns" and PFAP 38, "automatic shutoff valves for gas supply to the furnaces." PFAP 37 is a temperature probe and all the associated equipment necessary to signal the fuel gas valve to close. PFAP 38 is the fuel gas valve. Therefore PFAP 37 controlled PFAP 38, and a failure of either PFAP 37 or 38 would cause both PFAP to be unavailable. Accident Identifier RD-7 in the Integrated Safety Analysis (ISA) credited both PFAP 37 and 38 to prevent an intermediate consequence event. Since these PFAP were not independent (i.e. both were required for a single safety function to be performed) the licensee may not take credit for two separate PFAP. Without taking credit for two separate PFAP, the licensee was not able to make this accident identifier unlikely for an intermediate consequence event, which is required by the license application. The licensee stated that they are following up with this issue to determine if these two PFAP are independent. This issue will be tracked by the NRC as an unresolved item (URI 40-3392/2009-005-01).

- The inspectors reviewed select piping and instrumentation diagrams (P&IDs) for the reduction process area. The inspectors noticed that the "fuel gas" provided to the reductor pre-heater was missing valves on the P&IDs, but the valves were physically in the facility. The inspectors went to FMB to verify that the valves (which are part of PFAP 38) were in place. The safety demonstration report, which is required by the license, states that all piping and instrumentation diagrams are updated as changes are made or new information becomes available. The licensee stated that they are following up with this issue to determine if a more current P&ID existed for this process. This issue will be tracked by the NRC as an unresolved item (URI 40-3392/2009-005-02).

- The inspectors reviewed the licensee's ISA Summary and found multiple discrepancies when compared to their ISA. The following issues were identified:

  1. Accident identifier RD-1, "equipment failure due to a hydrogen detonation in the reduction process equipment," in the ISA has been deleted from the ISA Summary. The accident scenario in the ISA states that the uncontrolled case assumes that operators will manually shutdown the process in response to hydrogen analyzer failure, which is PFAP 28. However, this accident scenario is deleted from the ISA Summary, so manually shutting down the process (PFAP 28) is no longer a PFAP. Since the licensee has deleted this PFAP, this would increase the consequences for this accident identifier and remove all mitigating PFAP.

  2. Accident identifier RD-3, "leakage of HF due to component overpressure," in the ISA states, that the uncontrolled event is mitigated by the Green Salt HF Mitigation Spray Ring System (PFAP 32) with low consequences to the worker and public. This accident identifier is deleted from the ISA Summary, therefore deleting PFAP 32 which is in place to mitigate the event, resulting in a higher consequence. Further, the ISA and ISA Summary both state that the primary purpose of the ISA (ISA Summary) is to identify all uncontrolled and unmitigated accident scenarios, but the licensee is utilizing a PFAP to mitigate this accident scenario before evaluating the consequences.

  3. Accident identifier RD-4 and HF-1 in the ISA have the same issues as RD-3.

  4. Accident identifier FL-2, "contact of hydrocarbons with fluorine gas or uranium hexafluoride gas resulting in an uncontrolled reaction," in the ISA does not evaluate the uncontrolled case, but states, that the enhanced administrative procedure (PFAP 48) is strictly enforced, no uncontrolled case is evaluated. Rather, this enhanced administrative procedure (PFAP 48) is so robust, that the licensee did not evaluate its failure, because it was determined to be not credible. However, since this accident identifier is deleted from the ISA Summary, this enhanced administrative procedure is no longer a PFAP.
  5. Accident identifier FL-3, "fluorine leak from process equipment that may produce a safety hazard," in the ISA assumes that any leaks that do occur will cause air in-leakage into the system rather than fluorine gas leaks out of the process (PFAP 49). The licensee claims that this is a passive engineered control, however no equipment is identified to keep the system subatmospheric. Also, since this accident identifier has been deleted from the ISA Summary, operating the process below atmospheric pressure is no longer a PFAP.

  6. Accident identifier CT-5, "potential fluorine leaks from the cold traps," in the ISA states, that the event results in intermediate consequences to the worker and low consequences to the public (Category 1). However, based on the ISA Summary methodology, intermediate consequences to the worker should be Category 2, which would require the implementation of PFAP to reduce and/or mitigate the likelihood of the accident identifier. This accident identifier has been deleted from the ISA Summary along with PFAP to prevent and/or mitigate the accident.

7. Accident identifier DI-4, “pigtail failure,” in the ISA does not evaluate consequences to the worker, only the public. Since the worker is constantly manipulating the pigtail, the consequence to the worker would be much greater than to the public due to proximity. This accident identifier and associated PFAP have been deleted from the ISA Summary.

8. Accident identifier DI-6, in the ISA, “uranium hexafluoride release due to the drop of a filled uranium hexafluoride cylinder and subsequent cylinder failure,” and associated PFAP have been deleted from the ISA Summary because the licensee has determined that the failure of the crane is not credible, even though they have determined that a release to the public would be an intermediate consequence event.

The above issues will be tracked by the NRC as an unresolved item (URI 40-3392/2009-005-03).

Fire Protection

- The inspectors verified that portable fire extinguishers were readily available in their correct location and rated for the correct fire scenario. The inspectors noted that portable fire extinguishers were charged to the normal operating zones and no visible damage was noted.

  The inspectors followed up with previously identified Violation 40-3392/2008-06-02, failure to inspect and maintain fire extinguishers in accordance with National Fire Protection Association (NFPA) 10. The inspectors walked down fire extinguishers through out the FMB and did not note any deficiencies with the fire extinguishers. This item is considered closed.

- The inspectors verified that the licensee had in place procedures to manually start the diesel engine and to adequately perform valve manipulations to connect the process water system to the fire water loop. The inspectors also verified testing and inspection records for the fire pump and the fire water tank.

  However, the inspectors noted that the licensee had not confirmed that when the fire pump is out of service and the process water is used for fire protection purpose, there is enough pressure to meet the minimum pressure requirements of 75 psi for the FMB standpipes and 65 psi for the Laboratory standpipes as specified in Section 10.2.7 of the MTW Integrated Safety Analysis. At the time of the inspection the licensee did not have sufficient information to demonstrate that when using process water for fire purposes there was enough pressure to meet the pressure demand of standpipes located at the FMB and Laboratory. An unresolved item (URI 40-3392/2009-05-04) was opened pending the review of the licensee’s analysis.

- The inspectors walked down the FMB to verify that flammable and combustible materials were controlled in accordance with the licensee’s procedures. The inspectors noted numerous examples where the licensee failed to keep combustible waste materials and residues in the FMB to a minimum, stored in proper receptacles, or disposed of daily as required by procedure MTW-SAF-IP-0018, “Housekeeping”.

  The inspectors also walked down the FMB to verify that unobstructed access was maintained to all emergency response equipment, aisles, and exits as required by procedure MTW-SAF-IP-0018, “Housekeeping”. The inspectors noted that the licensee failed to maintain unobstructed access to one of the fire hose reels and the supply valve located on the 5th floor of the FMB.

The inspectors followed up with previously identified Violation 40-3392/2008-06-01, Failure to comply with procedure MTW-SAF-IP-0018, "Housekeeping". Based on the observations related to control of combustible materials and access to fire hose reels, the inspectors determined that corrective actions implemented by the licensee were inadequate to correct and prevent reoccurrence of the issue. This violation will remain open until the licensee implements effective corrective actions.

- The inspectors walked down the fire pump house to verify the condition of equipment and that control valves were in the correct position. The inspectors noted that water supply valve OS&Y #2, which is located on the discharge side of the fire pump, was partially closed. The valve showed around 24 threads on the stem instead of 37 threads that are shown when the valve is in the open position. Section 4.4.1 of procedure MTW-SAF-LP-0008, Fire Protection Systems and Maintenance, states, in part, inspect routinely all sprinklers, sprinkler valves, water supplies, fire hydrants, yard mains, and fire extinguishers inspections to assure they will be available and operable should a fire occur. The failure to inspect the OS&Y #2 water supply valve to assure that it will be available and operable should a fire occur was considered a violation of NRC requirements (VIO 40-3392/2009-05-05).

- The inspectors reviewed inspection, testing, and maintenance (ITM) for fire suppression systems, fire hydrants, fire pump, fire hoses, and fire water storage tank. At the time of the inspection the licensee could not provide documentation showing that an ITM program was in placed to ensure that the suppression system located in the DCS room was available and reliable. The licensee initiated an investigation to determine whether or not an ITM program was in placed. An unresolved item was opened, (URI 40-3392/2009-05-06), pending the review of licensee's investigation.

- The inspectors reviewed facility changes that could impact fire safety or the ISA safety basis. The inspectors reviewed a facility change involving the installation of hydration enclosures within the FMB. The hydration enclosures were constructed of plywood sheathing. The inspectors reviewed the ISA and noted that the ISA states that the probability of a fire that could result in a high consequence event was extremely remote due to the low combustible loading in the FMB. The ISA did not analyze whether the installation of the hydration enclosures would impact the ISA assumptions related to combustible loading. The licensee stated that they will perform an analysis to evaluate the impact on the ISA assumptions. An unresolved item (URI 40-3392/2009-05-07) was opened pending the review of the licensee's analysis.

Exit Meeting Summary

The inspection scope and results were summarized on Thursday, October 8, 2009, with David Cole, and members of his staff. The inspectors asked the licensee staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

Key Points of Contact

Name	Title
M. Greeno	Regulatory Affairs Manager
T. Dodd	UF_6 Production
D. Heine	Operations Specialist
B. Muiter	Training
T. Barnes	Maintenance
S. Johnson	Safety & Environmental Manager
L. Litinski	Regulatory Affairs
R. Stokes	Health Physics Manager
J. Assad	CAP Administrator

List of Items Opened, Closed, Discussed

Item Number	Status	Description
URI 40-3392/2009-005-01	Opened	PFAP 37 and PFAP 38 were not independent of each other
URI 40-3392/2009-005-02	Opened	Failure to update the P&ID for reduction area as required by the license
URI 40-3392/2009-005-03	Opened	Multiple discrepancies between ISA and ISA Summary
URI 40-3392/2009-05-04	Opened	Failure to ensure adequate pressure was available for the fire suppression system
VIO 40-3392/2009-05-05	Opened	Failure to follow procedures for weekly fire suppression system inspections
URI 40-3392/2009-05-06	Opened	Failure to provide inspection, testing, and maintenance for the fire suppression system in the DCS room
URI 40-3392/2009-05-07	Opened	Failure to analyze hydration rooms for the combustible loading in the FMB
VIO 40-3392/2008-06-01	Discussed	Failure to adhere to housekeeping procedures in FMB
VIO 40-3392/2008-06-02	Closed	Failure to inspect and maintain fire extinguishers