




**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
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June 27, 2023

MEMORANDUM TO: Nicholas Peterka, Senior Fuel Facility Project Inspector  
Projects Branch 2  
Division of Fuel Facility Inspection

Chad Oelstrom, Fuel Facility Project Inspector  
Projects Branch 2  
Division of Fuel Facility Inspection

FROM: Mark S. Miller  Suggs, LaDonna signing on behalf  
of Miller, Mark  
Deputy Regional Administrator on 06/27/23

SUBJECT: CHARTER FOR SPECIAL INSPECTION AT HONEYWELL  
METROPOLIS WORKS – UF6 PIGTAIL LEAK (EVENT REPORT  
56586)

You have been selected to conduct a Special Inspection (SI) at the Honeywell Metropolis Works facility to assess the circumstances of an event involving the failure to meet the performance requirements in 10 CFR 70.61. Your onsite inspection should begin on June 28, 2023.

A. Basis

The accident sequence of concern (DI-4) involves a potential uranium hexafluoride (UF6) release while filling a UF6 cylinder due to a “pigtail” failure. To mitigate the risk of this event, three safety controls - Plant Features and Procedures (PFAP) -81, 82, and 83 are required to be available and reliable while conducting cylinder filling operations. All three controls are administrative controls in which PFAP-81 and 82 are used to remotely isolate the filling manifold and product cylinder respectively, and PFAP-83 tests the pigtail used during filling. All three PFAPs are necessary to meet the performance requirements of 10 CFR 70.61 as described in the license application and Integrated Safety Analysis (ISA) Summary.

On 06/21/23 at 1530 CDT, Honeywell was in the process of performing cylinder filling to support product sampling in the Feed Materials Building when a visual indicator of material was identified (whisp of UF6 coming from the “pigtail” to manifold connection). Operators initiated mitigating actions in accordance with site operating procedures by pressing the emergency stop which activated remotely operated valves at the manifold and UF6 cylinder. It was determined that the remotely operated valve closing mechanism at the #4 fill spot failed to close a UF6 cylinder valve. The cylinder valve was then closed manually by operations personnel terminating the whisp of material.

Region II staff evaluated the deterministic criteria in Management Directive (MD) 8.3, “NRC Incident Investigation Program” for fuel cycle facilities and Regional Office Instruction 0704 to determine the level of NRC response for this event. The issue of concern potentially met several of the deterministic criteria in ROI-0704 since the event involved “an event or condition such that

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the performance requirements of 10 CFR 70.61 were not met, as documented in the Integrated Safety Analysis summary.” The failure to implement both IROFS increased the likelihood of a high consequence event to the extent of not meeting the performance requirements in 10 CFR 70.61. Honeywell is required to follow provisions similar to 10 CFR 70.61 as a requirement of their license application and ISA Summary.

According to ROI-0704, plant events that result in a very substantial increase in the likelihood of a high consequence event could be considered for an Augmented Inspection or reduced to a Special Inspection (SI) if the licensee is taking adequate actions to manage the event. Additionally, per Inspector Manual Chapter (IMC) 2601, events that involve a loss or significant degradation of safety functions such that the performance requirements of 10 CFR 70.61 are not being met should be considered for an SI. Due to the actions taken by the licensee and the NRC’s understanding of the issue, the inspection staff recommended that a SI be performed.

B. Scope

The SI should focus on an independent assessment of the event as well as licensee’s performance, response, and evaluation. The scope of the SI shall include but not be limited to the following items:

- (1) By the end of the first day on site, make a recommendation as to whether a special inspection is the appropriate NRC response or if an Augmented Inspection Team is warranted.
- (2) Conduct a walkdown of the cylinder product filling station, the types of work activities being conducted during the filling operation and any potential impact to equipment and workers in the vicinity, and the location of any controls that were in place at the time of the event.
- (3) Review the circumstances leading up to the event, and to the extent possible, develop a “Sequence of Events.”
- (4) Review appropriate documentation and conduct interviews with personnel involved in the event including the Shift Manager, operators, contractors/subcontractors, project managers and security personnel to determine to what extent personnel were trained on and knowledgeable of the safety controls required to complete the planned activities.
- (5) Review and evaluate the licensee’s immediate corrective actions, completed and planned corrective actions, extent of condition reviews, and compensatory measures to determine if these support resumption of normal operations.
- (6) Review and evaluate licensee processes for ensuring required controls are in place and available/reliable prior to commencement of work activities and determine whether those processes were appropriately implemented.
- (7) Gather information on other PFAP controls, if any, that could be reasonably credited for the applicable accident sequence to meet the performance requirements in 10 CFR 70.61.
- (8) Review the recent UF6 leak that occurred during a line break on June 12, 2023, to determine if there are any similarities between the events and review any corrective actions that were implemented that would have prevented this event.

C. Guidance

Inspection Procedure (IP) 88003 (Reactive Inspection for Events at Fuel Cycle Facilities Program), provides additional guidance to be used during the conduct of the inspection. Your duties will be as described in IP 88003 and should emphasize fact-finding in its review of the circumstances surrounding the incident. Safety or security concerns identified that are not directly related to the event should be reported to the Region II office for appropriate action. You will report to the site, conduct an entrance, and begin inspection no later than June 28, 2023. It is anticipated that the onsite portion of the inspection will be completed during the week ending June 30, 2023. You will conduct an exit meeting at the appropriate time. An initial briefing of Region II management will be provided on June 28, 2023, at approximately 4:30 p.m. EDT. In accordance with IP 88003, you should promptly recommend a change in inspection scope, or escalation, if information indicates that the assumptions used in the MD 8.3 analysis were not accurate. The inspection results will be documented in a Special Inspection Report and should be issued within 45 days of the completion of the inspection. At the completion of the inspection, you should provide recommendations for improving the Fuel Cycle Oversight Process, core inspection procedures, and the SI process based on any lessons learned.

This charter may be modified should you develop significant new information that warrants review.

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

Nicholas Peterka and Chad Oelstrom

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CHARTER FOR SPECIAL INSPECTION AT HONEYWELL METROPOLIS WORKS – UF6 PIGTAIL LEAK  
(EVENT REPORT 56586) DATE June 27, 2023

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