

**PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE - PNO-II-14-008A**

This supplemental preliminary notification constitutes EARLY notice of events of possible safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by Region II staff (Atlanta, Georgia) on this date.

**Facility:**

Honeywell International, Inc.  
 Honeywell Specialty Chemicals  
 Metropolis, IL  
 Dockets/License: 40-3392/SUB-526

**Licensee Emergency Classification:**

- Notification of Unusual Event  
 Alert  
 Site Area Emergency  
 General Emergency  
 Not Applicable

SUBJECT: UPDATE - HONEYWELL METROPOLIS WORKS SHUT DOWN DUE TO UF<sub>6</sub> LEAK

On October 26, at 8:24 p.m. EST, Honeywell Metropolis Works experienced a leak of Uranium Hexafluoride (UF<sub>6</sub>) from a cold trap inside the Feed Materials Building (FMB). A cold trap is a large tank where UF<sub>6</sub> accumulates and is cooled and solidified which can be later heated and drained during normal plant operations. The cold trap was heated and was being drained when it leaked. Honeywell operators shut down the plant and evacuated the FMB. Emergency responders reentered the FMB and stopped the leak. Honeywell declared an "All Clear" at 3:16 a.m. EST on October 27. Members of the public outside the plant had reported that a cloud was visible emanating from the building before the mitigation spray towers were activated by Honeywell staff. The plant is currently shut down. No injuries were reported.

Honeywell's initial assessment of the event determined that no NRC emergency classification thresholds were exceeded and initial indications are that no detectable offsite release of material (UF<sub>6</sub> or HF) was present.

A Region II inspector was dispatched to Honeywell on October 27. The inspector has confirmed that a small UF<sub>6</sub> leak occurred during heating and draining operations. The UF<sub>6</sub> vaporized and interacted with moisture in the FMB allowing it to convert to UO<sub>2</sub>F<sub>2</sub> (a solid form of uranyl fluoride which is a yellow powder) and HF (hydrogen fluoride gas). The NRC inspector observed and confirmed the UO<sub>2</sub>F<sub>2</sub> deposits were contained in the FMB and were within a two to three foot radius of the leak area. The NRC inspector verified that Honeywell staff implemented their emergency plan by assessing the spill and took immediate actions that included sounding the plant emergency alarm, accounting for all personnel, assembling the emergency response team, assessing the event by characterizing that some HF was visible coming from the top of the building, activating the spray system and directing it towards the FMB windows to prevent any HF from reaching the public, directing operators to don safety gear and re-enter the facility to stop the spill of UF<sub>6</sub>, isolating and cooling the leaking cold trap (cooling the trap forces the UF<sub>6</sub> to solidify), placing a vacuum system in service to capture vaporized UF<sub>6</sub>, and monitoring fence HF detectors from the fluorine plant control room which indicated no detectable HF at the fence.

NRC inspection of the circumstances surrounding the leak and the adequacy of the licensee's actions continue. Areas of continued inspection focus include, but are not limited to: determining the appropriateness of the licensee's emergency declaration; assessing the root cause and extent of condition; verifying the licensee's calculations which concluded that 6 pounds of UF<sub>6</sub> leaked from the cold trap; and reviewing the environmental sample test results to confirm that no HF was deposited off-site.

The information presented herein has been discussed with the licensee, the state of Illinois, and local officials, and is current as of 9:00 a.m. EST on October 31.

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