HONEYWELL

Key Messages:

- NRC staff has continued its heightened oversight of the Honeywell International, Inc., uranium conversion facility in Metropolis, IL, as a result of previous events involving the release of hazardous chemicals.

- On December 22, 2003, a release of approximately 70 pounds of uranium hexafluoride (UF6) occurred from one of the plant's chemical process lines. The release lasted approximately 40 minutes, and resulted in the declaration of a Site Area Emergency by Honeywell which was terminated approximately four hours later. About 25 people offsite were temporarily evacuated, and some 75 persons remained sheltered for a time in their homes. Four individuals went to the hospital, and three were examined and released. The fourth individual was held for observation and released the next day. Although this release had minimal impact on worker or public health and safety, it raised concerns about the material condition of the facility and licensee staff performance.

- As a result if the December release, Honeywell implemented a Performance Improvement Plan which has focused on plant material condition (hardware), worker performance (procedures and training), emergency procedures and response, and the corrective action/auditing process.

- Honeywell has implemented substantial upgrades to its process, procedures, and programs, and the licensee was authorized to restart conversion activities using a phased approach between March 26, and April 17, 2004; however, follow-up inspections have continued to identify issues related to procedural adequacy and adherence, control room conduct of operations, radiation protection controls and practices, and an ineffective corrective action program.

Background/Context:

- Prior to December 2003, several incidents involving hazardous chemicals occurred at the Honeywell facility. These involved a January 27, 1998, incident in which three workers received hydrofluoric acid (HF) burns to their skin from a UF6 leak; a September 9, 2003, HF spill which resulted in injuries to a maintenance mechanic; a September 12, 2003, chemical release of antimony pentafluoride (SbF5), not related to the uranium process, creating a plume that traveled past the fence line and resulting in an Alert declaration; and a September 30, 2003, small release of UF6 from a cylinder pigtail which was contained on site.

- A special inspection was conducted on October 6, through November 26, 2003, to review the circumstances regarding these events, and the root cause of the latter events was determined to be similar to that of the 1998 release, e.g., management's expectations for procedural adherence were not clear in some cases and had been eroded through acceptance of site practices that contradicted procedural directions. Inspections were also conducted prior to and during start-up of the UF6 operations to verify corrective actions. Non-escalated enforcement was issued for failure to use and/or follow required procedures, but no enforcement action was taken for the SbF5 release or the HF spill because those events did not have the potential to affect the safety of radioactive material and the HF involved in the spill was material used prior to the addition of the uranium.

- For the December 22, 2003, release, a Confirmatory Action Letter was issued that day requiring Honeywell to discuss the results of its investigation and the proposed corrective actions with NRC prior to restart of the UF6 processes. In addition, an Augmented Inspection Team (AIT) was immediately chartered to inspect and assess the release. Two Severity Level III violations were issued as a result of the AIT findings. As a result of Honeywell's reviews, Honeywell identified and corrected over one hundred action items necessary for restart.

- Honeywell also identified several longer-term corrective actions such as improved process monitoring and control and improvements in the control room.

Accomplishments:

- The NRC implemented a Honeywell Upgrade and Restart Oversight Plan taking elements from Inspection Manual Chapter 0350. This plan included determination of the sufficiency of proposed corrective actions, inspection of corrective actions to determine their effectiveness, observation of a table top drill of the revised Emergency Plan, and coordination with the State and local agencies and the Environmental Protection Agency. This process included comprehensive verification inspections by the NRC staff.

- Using a phased approach, between March 26, and April 17, 2004, the NRC staff authorized restart of the conversion process based on its determination that adequate near term corrective actions had been implemented and sufficient plans for longer term actions were in place.

- A number of public meetings continue to be conducted to discuss Honeywell's corrective actions and NRC inspection results. Public interest has reduced over time.

- The NRC staff completed the Licensee Performance Review for the period February 1, 2003, to November 20, 2004, which included the conduct of a pubic meeting on February 7, 2005. Areas for improvement were identified relative to adherence to and quality of procedures for operations, control room conduct of operations, implementation of radiation protection controls, implementation of the emergency plan, implementation of the corrective action program, and procedural adequacy for assuring license requirements were implemented. Substantially less public interest was expressed at this meeting as compared to those held following the December 2003 release. There has been public interest in these meetings regarding the storage of chemical rail cars destined for or from Honeywell in the city of Metropolis.

Current Status:

- The NRC staff increased the FY 2005 inspections above the core inspection program and is continuing to follow the licensee's corrective actions during routine and regional initiative inspections.

- In November 2004, the NRC became aware of operator attentiveness issues at the site. As a result of these issues, the licensee implemented immediate actions to establish performance expectations and increase management oversight. In addition, the NRC is performing random off-hour inspections to monitor operator attentiveness and the effectiveness of the licensee's corrective actions. This issue is under investigation.

- As of February 1, 2005, the licensee implemented management changes at the site, hiring a new plant manager. Corporate is also exercising increased involvement in site activities, and the services of two outside consultant groups have been employed to audit ongoing operations and to do a comprehensive evaluation of plant operational and management processes.

- On February 10, 2005, the licensee identified through-wall circumferential cracking on a fluorinator. This fluorinator had been installed within the last year. The licensee also removed a similar fluorinator from service and is inspecting it for any similar indications. The plant continues to operate using a third fluorinator of a different vintage.

Pending Actions:

- Continue current level of inspection for the performance period to monitor the effectiveness of the licensee's corrective actions and impacts of recent management changes.

- Assess operator attentiveness issues for any appropriate enforcement action.

- Complete assessment of the cause of the fluorinator cracking.

Stakeholders and Their Interest

- Local interest following the December 2003 release was very high; however, it has subsided with time, as evidenced by the public turn-out at the recent Licensee Performance Review Meeting.

- One issue raised at two public meetings involve local citizens' concerns regarding the staging of chemical railcars destined for or from Honeywell within the city of Metropolis. NRC staff is working with Honeywell, the railroad, and the National Railway Administration to respond to these concerns. The NRC has received congressional questions on the issue.

Challenges:

- Assessing the effectiveness of licensee actions to improve regulatory and safety performance.

Policy Issues:

- Potential licensing issues as part of the license renewal.

Risks:

- When UF6 is released to the atmosphere, it forms uranyl fluoride and HF. It is the HF that presents the greatest hazard.