



# Agency Action Review Meeting May 3-4, 2005

Honeywell International, Inc.

And

Westinghouse Columbia Fuel Plant

D-5

# Honeywell International, Inc.

## Plant Information

- Located near Metropolis, Illinois
- Part 40 Uranium Conversion Facility
- Authorized to possess up to 150 million pounds of natural uranium
- Plant has been in operation since 1959
- Sole domestic supplier of  $UF_6$
- Manufacture other specialty chemicals including iodine pentafluoride, antimony pentafluoride, sulfur hexafluoride and liquid fluorine.

# Basis for Discussion

- December 22, 2003, uranium hexafluoride (UF<sub>6</sub>) release
- Event characterized as an Abnormal Occurrence
- Engaged senior licensee and corporate management
- Support of the Office of Investigations for recent issues

# December 22, 2003 Event

## Description

- Prior history of smaller UF6 and non-NRC regulated chemical releases
- UF6 release from Feeds Material Building beyond site boundary (Approximately 70 pounds)
- Site Area Emergency declared (Evacuation/ Sheltering of public)
- Release within regulatory limits
- Determined to have minimal impact on public health and safety

# December 22, 2003 Event

## Regulatory Actions

- CAL issued confirming plant shutdown
- AIT Inspection
- Met with senior licensee management
- Engaged with public through open meetings
- Oversight of corrective actions and restart readiness
- April 2004 restart approval
- Escalated enforcement action taken (2 SLIII violations)

# December 22, 2003 Event

## Root Cause/Corrective Actions

- No procedure for infrequently performed evolution
- Seven areas of corrective action focus
  - Corrective Action Program
  - Training
  - Policies and Procedures
  - Equipment/Mechanical Integrity
  - Management of Change
  - Emergency Response
  - Engineering Controls
- Substantial corrective actions taken by licensee

# Current Status

- Increased inspection effort continuing
- Continuing to identify issues
  - Procedural adequacy and adherence
  - Control Room conduct of operations
  - Radiation Protection program and practices
  - Corrective Action Program implementation
- Operator inattentiveness issues
  - Not isolated and supervisory awareness
  - OI involvement
  - Increased off-hour inspections
- Plant management changes

# Future Actions

- Continue increased oversight of LPR identified areas of improvement, corrective actions, and long term upgrades
- Continue engaging senior licensee and corporate management
- Maintain LPR period at increased frequency of one year
- Focus on implementation of corrective actions during routine inspections as they relate to the various inspection program areas and procedures



# Westinghouse Columbia Fuel Plant Plant Information

- Located in Columbia, South Carolina
- Part 70 Fuel Fabrication Facility – Category 3
- Authorized to possess up to 75,000 kg uranium up to 5 % enrichment
- Fabricates PWR fuel assemblies using wet-chemical process
- Currently expanding to fabricate BWR fuel assemblies
- Performs scrap recovery

# Basis for Discussion

- March 2004 discovery of operation of the incinerator off-gas system outside the criticality safety analysis
- Event characterized as an Abnormal Occurrence and represented a significant reduction in the criticality safety margin of the system
- Engaged senior licensee and corporate management
- Support of Office of Investigations for recent issues.

# Incinerator Issues

## Description

- Operation of the incinerator off-gas system outside the approved criticality analysis
- Analysis assumed no build-up in the system and criticality was not credible
- Upon discovery in March 2004, sufficient mass was present to become critical if suitable moderation and geometry conditions occurred.
- Multiple issues identified related to control of uranium concentration, radiological controls, criticality controls, and reporting.

# Other Issues

- During 2003, the licensee reported 6 events involving the loss of criticality safety controls
- Many of the instances involved the failure to follow procedures
- During June – August 2004, the licensee reported an additional four events involving the loss of criticality safety controls and failure to follow procedures
- In February 2005, the licensee reported an additional three criticality control events

# Regulatory Activities

- Escalated enforcement action taken for incinerator issue (SLII, \$24K CP)
- Management meetings conducted in response to earlier events
- Increased oversight of improvement areas
- Increased LPR frequency to annual in 2004
- Meeting with senior NRC management and Westinghouse corporate management in March 2005

# Licensee Actions

- Corrective actions have included:
  - Revision to training process and requalification of operators
  - Implementation of improved human performance monitoring
  - Review of criticality safety evaluations to verify assumptions and analyses
  - Increased nuclear criticality safety staff
  - Increased supervisory expectation and oversight

# Current Status

- 2005 LPR identified several areas needing improvement
  - Management oversight of criticality safety
    - Development/maintenance of criticality basis
    - Identification of appropriate criticality controls
    - Review of criticality analyses and event reporting
    - Supervisory/management ensure procedural compliance for safety activities
  - Management measures sufficient to identify and correct operational and performance challenge

# Planned Corrective Actions

- Based on March 2005 senior management meeting, the licensee plans the following additional actions:
  - Focus on prevention of errors versus responding to errors
  - Corporate commitment to provide resource, oversight and engagement of line management in support of error prevention
  - Added emphasis on reduction of administrative controls through the design and implementation of passive and active engineered controls



# Future Actions

- Continue increased oversight of LPR identified areas of improvement
- Continue engaging senior licensee management
- Maintain LPR period at increased frequency of one year
- OI investigation of recent procedural compliance issues
- Focus on implementation of corrective actions during routine inspections as they relate to the various inspection program areas and procedures