UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

December 14, 2006

Mr. David Edwards
Plant Manager
Honeywell Specialty Chemicals
P.O. Box 430
Metropolis, IL 62690

SUBJECT: NRC INSPECTION REPORT NO. 40-3392/2006-009

Dear Mr. Edwards:

This letter refers to the inspection conducted on November 15 and 16, 2006, at the Honeywell Specialty Chemicals facility in Metropolis, Illinois. The purpose of the inspection was to observe and evaluate the annual emergency preparedness exercise, to determine whether activities authorized by the license were conducted in accordance with NRC requirements. At the conclusion of the inspection on November 16, 2006, the findings were discussed with those members of your staff identified in the enclosed report.

The inspection consisted of an examination of activities conducted under the license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of the license. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations. However, as documented in the enclosed inspection report, the critique process for evaluating the effectiveness of the exercise was determined to be a programmatic weakness. It is requested that you respond within 45 days from the date of this letter regarding the corrective actions planned or already taken to improve the quality of exercise critiques.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, please contact us.

Sincerely,

/RA/

Jay L. Henson, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

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

Enclosure: NRC Inspection Report No. 40-3392/2006-009

cc w/encl:
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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	40-3392
License No.:	SUB-526
Report No.:	40-3392/2006-009
Licensee:	Honeywell International, Inc.
Facility:	Metropolis Works
Location:	P. O. Box 430 Metropolis, IL 62960
Dates:	November 15 - 16, 2006
Inspectors:	Mary Lynne Thomas, Senior Resident Inspector (USEC-Paducah) Steve Burris, Senior Resident Inspector (Nuclear Fuel Services) Otis Smith, Physical Security Inspector, Division of Reactor Safety
Accompanied by:	John M. Pelchat, Senior Fuel Facility Inspector Mark Chitty, Resident Inspector (USEC-Paducah)
Approved by:	Jay L. Henson, Chief Fuel Facility Inspection Branch 2 Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Honeywell International, Inc.
NRC Inspection Report 40-3392/2006-09

The purpose of this routine inspection was to observe and evaluate the licensee's performance during the annual exercise of its Emergency Response Plan/Radiological Contingency Plan (ERP/RCP). The inspections involved observation of work activities, a review of selected records, and interviews with plant personnel. The inspection identified the following aspects of the program:

Emergency Preparedness

- The exercise objectives and scenario adequately exercised major elements of the ERP/RCP. However, the failure of off-site emergency response agencies such as the hospital and law enforcement agencies to participate in the exercise diminished some of its training value. (Paragraph 2.a)

- The Incident Commander and other responding personnel performed in a manner that would have protected the workers' safety and resulted in timely mitigation of the uranium hexafluoride (UF_6) release. However, entry team and decontamination station personnel were very slow in responding to the injured worker and providing prompt first aid. This issue is very similar to the issue documented by the NRC during the previous graded exercise in December 2004. (Paragraph 2.b)

- The Crisis Manager and the Crisis Management Team took the proper actions delineated in the ERP/RCP to characterize the event and make the appropriate Protective Action Recommendations. While the licensee did not exercise the process for downgrading a Site Area Emergency, the Crisis Management Team reviewed the criteria and process for making that decision before the exercise was terminated. (Paragraph 2.c)

- The security organization response to the emergency exercise was consistent with the licensee's ERP/RCP and was adequate in meeting exercise objectives. (Paragraph 2.d)

- The exercise critique conducted by the Crisis Management Team was a candid assessment of the response and numerous items were identified by the licensee for program improvement, including those noted by the inspectors. However, a weakness was identified concerning the impact of the apparent reticence on the part of some participants in the Emergency Response Team (ERT) critique to provide candid critical feedback, which hampered the effectiveness of the critique. (Paragraph 2.e)

- With the exception of the apparent weakness in the critique process, the licensee's performance in responding to the release was an adequate demonstration of an emergency response program maintained in a state of operational readiness and with minor exceptions, licensee personnel were trained and familiar with procedures for implementing the ERP/RCP. (Paragraph 2.e)

Attachment:
Partial List of Persons Contacted
Inspection Procedure Used
Items Opened, Closed, and Discussed
List of Acronyms Used

REPORT DETAILS

1. Summary of Plant Status

The Honeywell Speciality Chemicals (licensee) uranium conversion facility (known as the Metropolis Works or MTW) 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 Feeds Material Building (FMB). During the inspection period, routine operations were conducted in the FMB without incident.

2. Emergency Preparedness (IP 88050)

a. Exercise Objectives and Scenario

(1) Scope and Observations

The inspectors reviewed the objectives and scenario for the licensee's November 15, 2006, annual graded emergency preparedness exercise and determined that they adequately challenged the various elements of the Emergency Response Plan/Radiological Contingency Plan (ERP/RCP). The scenario provided a sufficiently challenging framework to demonstrate the licensee's capability to implement the response and contingency plans.

The exercise was conducted during second (evening) shift and as a result, tested the licensee's ability to recall licensee personnel who normally worked during the day. The scenario involved industrial sabotage by a disgruntled employee that resulted in the release of UF_6 and a security incident. After sabotaging plant systems, the scenario provided that the disgruntled employee was injured, requiring his subsequent rescue from the distillation portion of the plant during the course of the simulated release. The inspectors noted that the 2006 scenario was significantly different from the scenarios that the licensee had used in previous exercises.

Licensee representatives who were involved in the development of the scenario indicated that they had contacted representatives of off-site emergency response participants such as the hospital and law enforcement agencies to solicit their participation in the exercise. Licensee representatives stated that off-site response agencies declined to participate in the exercise. As a result, licensee personnel were required to simulate contacting these agencies and to simulate the actions that they would have taken.

(2) Conclusions

The inspectors determined that the exercise objectives and scenario adequately exercised major elements of the ERP/RCP. However, the failure of off-site emergency response agencies such as the hospital and law enforcement agencies to participate in the exercise diminished some of its training value.

b. Incident Command

(1) Scope and Observations

The inspectors assessed the licensee's recognition of abnormal plant conditions, command and control, communications, and overall implementation of the ERP/RCP and the implementing Emergency Preparedness Implementing Procedures (EPIPs). The inspectors observed the onset of the simulated event in the FMB control room. The shift supervisor assumed the role of Incident Commander (IC) and made the initial assessment of the event in accordance with the ERP/RCP and the appropriate EPIP.

Exercise controllers told various operators in the FMB control room that large quantities of white smoke (suggestive of a large UF_6 release) were visible in the closed circuit television system monitoring the UF_6 fill station. The inspectors observed the fluorination operator obtain and use the appropriate EPIP to prepare for a simulated shutdown of the fluorination systems in the FMB. In response to this same initiating information, the distillation operator remained in his chair in a semi-reclined position, and began to describe the actions that he would take to place the distillation system in a safe condition. He did not obtain or use the appropriate EPIP nor did any other control room staff observe or interact with him to peer-check the actions being taken to verify that the steps he would take in the event of an actual release were correct.

The inspectors also noted that the IC did not make an announcement to the FMB control room staff to inform them of the nature or extent of the simulated release. In addition, no steps were taken to simulate the hardening of the control room or initiate the licensee's "safe haven" procedures at that time.

The inspectors observed the establishment of the incident command post in the Ore Storage Building. Licensee staff responding to the incident command post included the IC, the Emergency Response Team (ERT, also known as Red Hats), and later, medical and health physics personnel. The response times of licensee personnel who were off-site at the onset of the simulated event were reasonable in view of the time at which the exercise was being conducted.

The IC effectively communicated with the responders in the FMB control room to begin the assessment of the simulated leak in the cylinder fill station of the FMB. However, the two ERT members dispatched from the control room experienced difficulty communicating with the IC and control room because of confusion over which radio channel the team should be using. Consequently the team concluded that both of their radios had failed. The inspectors observed that the team appeared to be unsure of what action to take as the result of the apparent radio failure and asking an exercise controller what action they should take next. The controller correctly responded that they could not ask the controller and that the team should take whatever action they would take in the event of a radio failure. The team then took the action needed to successfully secure the release in the cylinder filling area.

The inspectors noted that there was additional confusion in radio communications as the result of designating both the FMB control room entry team and the first ERT entry team as “Entry Team One.” The inspectors further observed that the IC appeared to have ongoing difficulty hearing his radio and often isolated himself away from other incident command post activities in the Ore Storage Building in an effort to hear his radio.

The inspectors observed that after taking action to terminate the simulated release, the entry team began to leave the FMB through the nearest exit, where they discovered a mannequin posed as the unconscious disgruntled employee. The inspectors noted that the entry team was slow to decide what action to take regarding the injured individual, finally deciding to carry the individual to the first decontamination station. In the course of carrying the injured individual to the decontamination station, the entry team took no precautions to prevent further injuries and at one point, dropped the mannequin. The inspectors further noted that one member of the entry team dropped and damaged his radio and experienced difficulty with his Self Contained Breathing Apparatus (SCBA), in that the harness was loose and low on his body.

The inspectors noted that ERT members assigned to the first decontamination station delayed providing prompt first aid to and decontamination of the injured worker. They appeared to be uncertain as to what action to take, even after being advised by a controller that the mannequin represented an injured individual and being asked what action they would take next. After decontamination at the first decontamination station, the injured person was transferred to the second of the two decontamination stations. At about the same time, the entry team also arrived at the second decontamination station with their SCBAs alarming, indicating that the devices’ air supplies were approaching exhaustion. ERT members at the second decontamination station appeared to be overwhelmed and uncertain of whether to decontaminate the injured person or the entry team first. ERT members at the second decontamination station did not make any request for assistance to the nearby incident command post where other properly outfitted ERT personnel were standing by. Delay in providing prompt medical treatment to an injured individual was also identified by the NRC during the previous graded exercise in December 2004 (NRC Inspection Report No. 40-3392/2004-011)

During these activities, ERT members in the area were wearing either SCBAs or full face respirators. At this point in the exercise, no announcement had been made to inform plant personnel that the release had been terminated and that it was safe to reenter the area without respiratory protection. The inspectors then observed two ERT members carrying a stretcher from the incident command post to the second decontamination station so that the injured individual could be removed for additional medical treatment and radiation surveys. The inspectors noted that the ERT members carrying the stretcher were only wearing protective coveralls and that neither individual was wearing any form of respiratory protection nor were they wearing other required personal protective equipment (PPE) such as safety glasses. The ERT and medical personnel were able to remove the injured worker from the scene for medical help and radiological surveys without further difficulty.

Emergency facilities and equipment were generally adequate and operational. A number of minor issues were noted such as the failure of the interior lights in an emergency response trailer. However, ERT members had sufficient flashlights to allow them to locate and obtain needed equipment. The inspectors also noted that the ERT chronologist at the incident command post did not have a watch or other time-keeping instrument to document the time that events occurred.

(2) Conclusions

The inspectors determined that the IC and other responding personnel performed in a manner that would have protected the workers' safety and resulted in timely mitigation of the UF_6 release. However, entry team and decontamination station personnel were slow in responding to the injured worker and providing prompt first aid. This issue is very similar to the issue documented by the NRC during the previous graded exercise in December 2004 (NRC Inspection Report No. 40-3392/2004-011).

c. Crisis Manager

(1) Scope and Observations

The inspectors observed that the Crisis Manager (CM) and other members of the Crisis Management Team took the proper actions delineated in the licensee's ERP/RCP. At the onset of the exercise, the first appropriately trained individual to arrive assumed the role of CM until the plant manager's arrival. After the plant manager's arrival, the inspectors noted that some members of the Crisis Management Team were unsure regarding transition of CM responsibility. The Crisis Management Team simulated the timely notification of off-site agencies including the state, local emergency services and disaster coordinator, and the NRC. The licensee demonstrated the ability to provide updated information regarding the time of the release, meteorological conditions, facility status, event classification, and recommended protective actions. The licensee staff noted that the flow of information to outside stakeholders was improved with the use of pre-developed and approved messages. The CM made periodic announcements to the Crisis Management Team. At the end of each announcement, the CM sought and obtained the IC's concurrence via radio to verify that the information was correct.

The inspectors observed that the licensee terminated the exercise prior to downgrading the event from a Site Area Emergency (SAE). However, the inspectors noted that the CM and the Crisis Management Team did review and discuss the criteria for exiting a Site Area Emergency prior to the termination of the exercise.

(2) Conclusions

The inspectors observed that the CM and the Crisis Management Team took the proper actions delineated in the licensee's Emergency Plan to characterize the event and make the appropriate Protective Action Recommendations. While the licensee did not exercise the process for downgrading a SAE, the criteria and process for making that decision was reviewed by the Crisis Management Team before the exercise was terminated.

d. Security

(1) Scope and Observations

The inspector reviewed licensee security emergency procedures for response to accidents and disasters, held discussions with on duty security personnel, observed normal security operations and security emergency response exercise objectives.

Licensee procedure titled, "Wackenhut-Honeywell," dated November 10, 2006, provided instructions regarding the licensee's security response. In addition, the licensee's ERP/RCP provided specific instructions for security response and controlling access to the plant during emergency conditions. Discussions between the security officers and the inspector revealed that security officers were cognizant of their duties and responsibilities.

During the emergency response exercise, the inspector observed that the security organization maintained adequate control of access to the facility. Appropriate notifications were made to off-duty security personnel and simulated notifications were made with appropriate off-site emergency response organizations. The off-site emergency organizations included local law enforcement organizations, the Federal Bureau of Investigations, the United States Department of Homeland Security, and the State's joint terrorism task force organization.

When notified of a potential security issue on the plant site, a security team was appropriately summoned and performed the appropriate actions consistent with the licensee's written procedures. The security team was successful in resolving the simulated security issue.

(2) Conclusions

The security organization response to the emergency exercise was consistent with the licensee's ERP/RCP and was adequate in meeting the exercise objectives.

e. Exercise Conduct and Critiques

(1) Inspection Scope and Observations

The inspectors examined the performance of licensee controllers and observers during the exercise to assess its effectiveness in evaluating licensee staff knowledge and to provide training to licensee personnel. As noted above, the inspectors observed a number of licensee employees who were unresponsive to controller inputs and failed to conduct themselves in the manner expected of personnel responding to an event. On several occasions, the inspectors saw licensee employees turning to controllers when confronted with a problem. However, in each case, the controllers would respond with a description of the situation and ask the player what action they would take in real life.

The inspectors noted a number of instances where exercise artificiality led to confusion. For example, the simulated wind direction was opposite of the actual direction so as to lead to an off-site release requiring the issuance of protective action recommendations.

However during the exercise, despite given the exercise wind direction by controllers, licensee personnel carried out activities such as deployment of decontamination stations based on actual wind conditions.

10 CFR 40.31 (j)(3)(xii) requires, in part, that the licensee critique each exercise of its emergency plan and that exercise critiques must evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response. The licensee conducted two critiques following the exercise that afforded players, controllers, and observers an opportunity to provide comments regarding the effectiveness of the exercise. The first exercise critique, conducted with the Crisis Management Team, was a candid assessment of the response and numerous items were identified by the licensee for program improvement, including those noted by the inspectors.

The second critique was conducted with ERT personnel. Compared to the first critique, few issues were brought up and discussed, despite the greater number of participants. The inspectors noted most of the statements regarding conduct of the exercise were positive and that few comments identified weaknesses (such as communication difficulties) or mistakes that were made. For example, no comments were made regarding the delays in providing prompt medical attention to the simulated injured person by participants, controllers, or observers. Critique participants did not comment on the difficulties experienced with SCBAs nor was there any discussion regarding the failure on the part by the two individuals bringing the stretcher to decontamination station two to wear the appropriate PPE including respiratory protection. In addition, no comments were made regarding the difficulty experienced by licensee personnel at decontamination station two when confronted with the need to decontaminate the injured person or the entry team at the same time. Neither exercise controllers nor observers commented on the need of exercise participants to respond independently to situations presented in the drill in accordance with their training and procedures, and to not ask controllers what action they should take. Despite solicitation for additional issues by the critique coordinator, no further items were offered by the meeting participants.

In marked contrast to the Crisis Management Team critique, the inspectors observed apparent reticence on the part of some exercise participants during the second critique. When asked by the inspectors prior to the conclusion of the critique, one participant stated that licensee staff knew that the exercise was being observed and evaluated by the NRC and expressed concern that issues identified in the critique would have an adverse impact on the outcome of the NRC's assessment. The inability of some licensee staff to provide candid critical feedback constituted a weakness that hampered the effectiveness of the critique.

(2) Conclusions

The inspectors determined that the exercise critique conducted by the Crisis Management Team was a candid assessment of the response and numerous items were identified by the licensee for program improvement, including those noted by the

inspectors. However, a weakness was identified concerning the impact of the apparent reticence on the part of some participants in the emergency response team critique to provide candid critical feedback, that hampered the effectiveness of the critique.

With the exception of the apparent weakness in the critique process, the inspectors determined that, overall, the licensee's performance in responding to the release was an adequate demonstration of an emergency response program maintained in a state of operational readiness, and with minor exceptions, licensee personnel were trained and familiar with procedures for implementing the ERP/RCP.

6. Exit Meeting Summary

The inspectors presented the inspection results to members of the plant staff and management at the conclusion of the inspection on November 16, 2006. The plant staff acknowledged the findings presented. The inspectors asked the plant staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

1. PARTIAL LIST OF PERSONS CONTACTED

D. Edwards, Plant Manager
C. DeLand, Maintenance/Reliability Manager
R. Erickson, Operations Manager
J. Riley, Nuclear Regulatory Affairs Manager
J. Johnson, Safety Supervisor
B. Muiter, Training Manager
S. Patterson, Health Physics Supervisor
N. Rodgers, HP Specialist
B. Stokes, Health Physics Specialist
G. Wood, Project Manager, Security

2. INSPECTION PROCEDURE USED

IP 88050 Emergency Preparedness

3. ITEMS OPENED, CLOSED, AND DISCUSSED

NONE

4. LIST OF ACRONYMS USED

ADAMS	Agency Document Access and Management System
CFR	Code of Federal Regulations
CM	Crisis Manager
EPIP	Emergency Preparedness Implementing Procedure
ERO	Emergency Response Organization
ERP/RCP	Emergency Response and Radiological Contingency Plan
ERT	Emergency Response Team
FMB	Feed Materials Building
IC	Incident Commander
IP	Inspection Procedure
MTW	Metropolis Works
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PPE	Personal Protective Equipment
SAE	Site Area Emegency
SCBA	Self Contained Breathing Apparatus
UF_6	Uranium Hexafluoride
USEC	United States Energy Corporation