



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

June 14, 2013

Mr. Larry Smith
Plant Manager
Honeywell Metropolis Works
P.O. Box 430
Metropolis, IL 62960

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT 40-3392/2013-003

Dear Mr. Smith:

This letter refers to the inspections conducted from April 1, 2013 through June 30, 2013, at the Honeywell Metropolis Works facility. The purpose of the inspections was to determine whether activities authorized under the license were conducted safely and in accordance with NRC requirements. Inspections focused on evaluating activities conducted to implement the requirements of Confirmatory Order EA-12-157, issued on October 15, 2012. The enclosed report presents the results of these inspections. On June 5, 2013, the findings were discussed with you and other members of your staff.

The inspections consisted of an examination of activities conducted under your license as they relate to public health and safety to confirm compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspections consisted of a selective examination of procedures and representative records, observations of seismic upgrade modification activities in progress at the plant, and interviews with personnel. Based on the results of these inspections, no violations of regulatory requirements were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Thank you for your cooperation. If you have any questions, please call me at (404) 997-4628.

Sincerely,
/RA/
James A. Hickey, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

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

Enclosure: (See page 2)

June 14, 2013

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X PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE X NON-SENSITIVE

ADAMS: X Yes ACCESSION NUMBER: ML13168A069 X SUNSI REVIEW COMPLETE X FORM 665 ATTACHED

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SIGNATURE	/RA/	RPrince for	Via email	Via email	Via email	Via email	Via email
NAME	RPrince	RGibson	CJulian	TVukovinsky	PGlenn	DHarmon	DHartland
DATE	6/ /2013	6/ /2013	6/ /2013	6/ /2013	7/ /2013	7/ /2013	7/ /2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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L. Smith

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Enclosure:
Inspection Report 40-3392/2013-003
w/Supplemental Information

cc:

Jonathan Monken, Director
Emergency Management Agency
Division of Nuclear Safety
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Kentucky Emergency Management Agency
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Paul Carter, Director
McCracken County Emergency Management Agency
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Paducah, KY 42001

Keith E. Davis, Director
Metropolis Emergency Management Agency
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Metropolis, IL 62960

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Department of Energy
Regulatory Management Branch, NS-52
Paducah Gaseous Diffusion Plant Site
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P.O. Box 1410
Paducah, KY 42002

Letter to Mr. Larry Smith from James A. Hickey dated June 14, 2013

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT 40-3392/2013-003

Distribution:

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U.S. NUCLEAR REGULATORY COMMISSION
REGION II
INSPECTION REPORT

Docket No.: 40-3392

License No.: SUB-526

Report No.: 40-3392/2013-003

Licensee: Honeywell International, Inc.

Facility: Metropolis Works (MTW)

Location: Metropolis, IL 62960

Dates: April 1 through June 30, 2013

Inspectors: R. Gibson, Senior Fuel Facility Inspector
P. Glenn, Fuel Facility Inspector
D. Harmon, Construction Inspector
C. Julian, Senior Project Manager
R. Prince, Fuel Facility Inspector
T. Vukovinsky, Fuel Facility Inspector
D. Hartland, Senior Resident Inspector

Accompanying Personnel: J. Anderson, Branch Chief, NSIR
A. Chowdhury, Staff Engineer, Center for Nuclear Waste Regulatory Analyses
J. Cintron, Electrical Engineer
J. Marcano, Structural Engineer

Approved by: J. Hickey, Branch Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

Enclosure

Executive Summary

Honeywell Metropolis Works Inspection Report 40-3392/2013-003

Routine, announced inspections were conducted to evaluate the licensee's implementation of requirements included in Confirmatory Order EA-12-157 at the Honeywell Metropolis Works facility. The inspections included observation of work activities, review of design documentation, review of facility records and procedures, interviews with plant personnel, and review of plant seismic upgrade modification work activities.

Permanent Plant Modifications

- The licensee developed and implemented an adequate commercial grade dedication (CGD) program to support the procurement and dedication of commercial grade items in support of the seismic upgrade project.
- Non-destructive examination and welding activities were performed in accordance with applicable industry codes.
- Modification work activities were conducted to meet established design requirements and in accordance with construction work packages.
- Work documents for the installation and modification activities associated with restraints on process piping and equipment and components were developed and implemented in accordance with the licensee's program.
- A seismic shutdown system with automatic valve isolation features was installed and adequately tested. Operators and control room personnel were knowledgeable of the function, purpose, and alarm features associated with the seismic shutdown system, and actions to take in the event of an alarm signal.
- The licensee established a program to track issues adverse to quality and corrective actions relating to the seismic upgrade modification program. Conditions adverse to quality or items required to support implementation of the Confirmatory Order were appropriately disposition and appropriate corrective actions implemented.

Operator Training

- Operator training programs were adequately revised and updated to incorporate changes made to plant operating systems and components. Operators were adequately trained and qualified on plant seismic modifications and knowledgeable of associated operating procedures.

Evaluation of Exercises and Drills

- The licensee adequately demonstrated the ability to implement their emergency response plan. Observations and areas needing improvement identified during the May 16, 2013 emergency plan exercise were adequately addressed and corrective actions implemented.

Operational Readiness Review

- Sufficient numbers of trained and qualified staff and operators were available to support restart of license operations. Seismic modifications were completed in accordance with design documentation. Modifications made to implement the requirements of the Confirmatory Order were reviewed and closed in accordance with the licensee's plant modification program. Plant components and equipment necessary to support plant operations were available and required preventive maintenance, surveillance, and testing of Plant Features and Procedures (PFAPS) was scheduled to support restart activities.

Attachment

List of Persons Contacted

Inspection Procedures Used

List of Documents Reviewed

REPORT DETAILS

1. Summary of Facility Activities

The Honeywell Metropolis Works (MTW) (licensee) uranium conversion facility is located on a 1,100 acre site (60 acres within the fence line) near Metropolis, IL. The licensee is authorized to possess 150 million pounds of natural uranium ore and to convert this material to uranium hexafluoride (UF₆). The uranium conversion process occurs in the Feed Materials Building (FMB).

A Confirmatory Order was issued on October 15, 2012, to the MTW facility as a result of seismic concerns and the subsequent potential impact to the licensee's emergency preparedness plan. These concerns were identified during an NRC inspection conducted from May 15 – 21, 2012. Inspections were conducted throughout this inspection period to evaluate the licensee's activities performed in support of implementation of the commitments of the Confirmatory Order. The facility operations involving licensed material were in a shutdown mode with all uranium conversion operations out of service. Work activities associated with seismic modifications to process equipment and the seismic retrofits of the FMB structure were completed during this inspection period.

2. Permanent Plant Modifications (88070)

a. Commercial Grade Dedication

(1) Inspection Scope and Observations

Over the period of April 8-11, 2013, the inspectors continued to review the licensee's commercial grade dedication (CGD) plans associated with the installation of equipment restraints, isolation valves, and materials procured to support FMB seismic structural modifications. In general, CGD plans were prepared in accordance with the licensee's program. The inspectors identified examples in some of the plans whereby it was difficult to follow documentation as it pertained to a given CGD plan. The inspectors determined that these issues were administrative in nature. The licensee took prompt action to correct the items pointed out by the inspectors. No technical issues were identified by the inspectors relating to the overall adequacy of CGD plans.

Over the period of May 6-9, 2013, inspectors continued their evaluation of the licensee's CGD program. Numerous CGD plans were available for review and were in the final stages of the licensee's approval process. The inspectors noted continued improvement in the quality and accuracy of CGD plans.

(2) Conclusion

No violations of NRC requirements were identified.

b. Non-Destructive Examination Activities and Welding Activities

(1) Inspection Scope and Observations

From April 8-11, 2013, the inspectors conducted an on-site review of the implementation of the licensee's modifications associated with structural modifications to the FMB. The inspectors' activities included a review of welding and non-destructive examinations to evaluate compliance with the applicable codes and standards.

The inspectors performed a walk-down of the site and observed tornado missile shields in various stages of installation onto the FMB. The inspectors observed fabricated shields staged outside ready to be lifted and welded to the building. The inspectors verified that they were kept off the ground and adequately controlled, and the inspectors visually examined the welds in the shields to verify they met the requirements of the American Welding Society (AWS) D1.1 and D1.3 codes. The inspectors also observed a shield being welded onto the FMB to verify that welding technique and variables were in accordance with the welding procedure. Lastly the inspectors visually inspected a shield that had already been installed and inspected by the licensee to verify that the welds met the visual weld acceptance criteria of the AWS D1.1 Structural Welding code.

Additionally, the inspectors walked down the welding filler metal storage and issuance trailer and interviewed the attendant to verify that it was controlled in accordance with applicable procedures. Specifically, the inspectors verified that unopened filler metal was stored properly, that opened and returned Shielded Metal Arc Welding rods were kept in a controlled oven, that the storage oven temperature was measured with calibrated Measuring and Testing Equipment, that logs were kept to ensure traceability to heat number, and that access to welding rods was controlled by locked cabinets and ovens.

For the received tornado shields, the inspectors reviewed the documentation from the fabrication vendor (Precision Steel) to verify that they had been made in accordance with the applicable code and quality requirements. Specifically, the inspectors reviewed drawings, weld inspection records, welding procedures, and their respective qualification records, and certified material test reports.

The inspectors reviewed the welding program of the onsite welding contractor to verify it met the applicable code and quality requirements. Specifically, the inspectors reviewed Bowen's Site Welding Standard, welding procedures, filler metal control procedure, and a sampling of their welder's qualification records.

(2) Conclusion

No violations of NRC requirements were identified.

c. FMB Structural Modifications

(1) Inspection Scope and Observations

Over the periods of April 8-11, 2013, and May 6-9, 2013, inspectors continued their evaluation of work activities associated with FMB structural modifications and

seismic design documentation for the 475-year return period earthquake. Inspection activities included a review of documentation, and interviews with licensee seismic analyst and design engineers. Extensive field walk downs were conducted with licensee project managers and design engineers to evaluate the adequacy of seismic modifications and to observe ongoing work activities. Visual inspections of field activities included modifications to strengthen lateral bracing connections, beam-column connections, and column anchorage; steel plates, or channels welded to beams and columns; and restraints installed on process piping and equipment. Work scope documents and related work packages were reviewed for adequacy and to determine compliance with the licensee's work control process and quality plan, including the request for information control process.

Based on field observations, review of design documentation and detailed FMB structural modification work packages and interviews with responsible personnel, the inspectors determined that modification work activities were in accordance with the design of the proposed modifications to address seismic concerns relative to the 475-year return period earthquake. Additionally, the inspectors determined that modification work activities were conducted in accordance with work scope and construction work packages.

During the period of May 6-9, 2013, inspectors noted that the licensee had implemented additional FMB structural modifications for the 1700-year return period earthquake based on the ongoing analysis to evaluate seismic margin. At the time of the inspection the scope of the modifications consisted primarily of strengthening the lateral bracing connections. Modification work activities were still in progress to complete this effort. Inspection activities included a review of design documentation and work packages associated with these modifications, interviews with seismic analyst and design engineers, seismic walk downs, and visual inspection of the modifications. The inspectors determined that work activities associated with these additional structural modifications were conducted in accordance with the licensee's work control processes and in accordance with appropriate design documentation and construction work packages.

Over the periods of April 8-11, 2013, and May 6-9, 2013, inspectors continued their evaluation of the licensee's activities on the tornado missile protection for certain components and areas of the FMB. Inspection activities included a review of the design and construction work packages, interviews with the licensee tornado missile shield design engineers, and inspection of placement of tornado missile barriers. Based on the reviews, interviews, and inspection; the inspectors noted that the construction and placement of tornado missile barriers was conducted in accordance with the work scope and the construction work packages to provide necessary protection of pipes, tanks, and vessels from tornado missile hazards.

(2) Conclusion

No violations of NRC requirements were identified.

d. Installation of Seismic Restraints

(1) Inspection Scope and Observations

During the period of April 8-11, 2013, work was in progress related to the installation of hangers and seismic restraints on various UF₆ process piping, tanks and vessels as part of the seismic modification project. The inspectors reviewed work scope documents and related work packages for adequacy and interviewed responsible project managers.

The inspectors performed field walk-downs of restraints to verify the as-built configuration with installation work documents. Based on field observations and discussions with the responsible personnel the inspectors identified that in some cases restraints were not installed as specified by work documents. The differences were primarily due to interferences encountered in the field that prevented some restraints from being installed as specified. The inspectors questioned licensee personnel concerning the process utilized to initially identify when field conditions are encountered that do not allow a specific restraint to be installed as specified in work documents. Licensee personnel stated that engineering walk downs are the primary means utilized to identify these situations. To ensure that these situations are not overlooked the licensee entered this issue into their corrective action program for evaluation. The inspectors noted that final field walk-downs are performed by seismic engineers to verify that the as built configuration is adequate to meet design requirements.

The licensee utilized the services of a contract engineering firm to procure, inspect, and control the handling and storage of materials used in the construction of restraints. The inspectors interviewed personnel and reviewed purchase documentation and requisitions and determined that material specifications were adequately specified and in accordance with the licensee's purchase specifications. Responsible personnel demonstrated the receipt process and measures established to control the issuance of materials. Materials were staged in a controlled and secured area. The inspectors determined that the contract engineering firm's procedures adequately addressed the receipt, inspection, and control of material used in the construction of equipment restraints.

Over the period of May 6-9, 2013, the inspectors continued their evaluation of the installation of piping and equipment restraints. The inspectors noted that the licensee had implemented additional design modifications associated with this project to strengthen restraints to meet the 1300-year return period earthquake. Modifications to restraints necessary to meet the 1300-year return period earthquake were approximately 90 percent complete. The inspectors determined that work activities associated with this activity were conducted in accordance with the licensee's work control processes and in accordance with appropriate design documentation.

(2) Conclusion

No violations of NRC requirements were identified.

e. Seismic Shutdown System and Installation of Isolation Valves

(1) Inspection Scope and Observations

Over the period of April 8-11, 2013, the licensee had completed installation of the majority of the isolation valves. CGD plans had been developed for several isolation valve applications. Based on a review of documentation and interviews, the inspectors determined that the CGD plans were developed in accordance with the licensee's CGD program. The inspectors reviewed work scope and maintenance work packages for the installation of isolation valves. The inspectors conducted field observations of valve installation work activities in progress and observed locations where isolation valves had recently been installed.

The inspectors noted that some of the larger-sized isolation valves installed weighed in excess of 200 pounds. Over the period of May 6-9, 2013, inspectors noted during field observations that supports had been installed on the larger-sized isolation valves to provide the necessary support.

Licensee personnel demonstrated control functions and features associated with the new isolation valves and the overall seismic shutdown system. The system consists of three onsite seismic monitoring stations equipped with accelerometers and is designed to actuate upon detection of a seismic event exceeding pre-established threshold values. In the event that two of the three onsite monitoring stations register a seismic event exceeding the alarm threshold, alarms are actuated in the control room. The inspectors noted that the seismic alarm signals cause various isolation valves installed in liquid UF₆ and other process systems to close automatically. The automatic closure of the isolation valves contains the liquid UF₆ within various process components such as primary cold traps and still feed tanks.

Inspectors observed control room indicators on control panels and alarm status panels as licensee personnel tested the various alarm functions associated with the seismic shutdown system. Alarm functions were observed to operate as alarm signals from the seismic sensors were initiated. Inspectors observed valve response in the field when system signals were initiated from the control room. Isolation valves are designed to close in the event of a seismic event signal, loss of power, or loss of actuator air supply. The observed valves operated as expected. Valves automatically closed and valve movement was observed locally when alarm signals were registered in the field. Control room operators demonstrated system configuration and isolation valve status on control room digital control display panels.

The licensee developed a "Seismic Shutdown System Testing and Verification" test procedure. The test package included operability checks for the three seismic monitoring stations, verification of control room indicators, testing of isolation valves and related system operability and performance checks. Testing of the system was ongoing with the majority of the testing completed. Based upon discussions with the responsible personnel and a review of documentation the inspectors determined that the system's performance met the appropriate acceptance criteria. The seismic shutdown system testing procedure adequately addressed the required alarms and features important to safety.

On May 8, 2013, the inspectors observed licensee personnel performing a test of the overall seismic shutdown system. The test involved initiating a trip signal from two-

out-of-three seismic monitoring stations in the field. Inspectors were stationed in the control room, at a seismic monitoring station, and in the FMB during the performance of the test. Inspectors observed the initiation of alarm signals from the seismic accelerometers, control room alarms as they were received by control room operators, and operator response to alarm signals, and noted closure of valves in the field upon receipt of a seismic shutdown signal. Equipment and operator response was as expected. Licensee personnel subsequently performed a second test to allow observation of relay response of system and components in the digital control system (DCS) station located in the FMB. Relays in the DCS station associated with the seismic shutdown system responded as expected. Based on observations and interviews the inspectors determined that control room personnel were knowledgeable of the function, purpose, and alarm features associated with the seismic shutdown system.

(2) Conclusion

No violations of NRC requirements were identified

f. Quality Assurance Audits and Corrective Action Program

(1) Inspection Scope and Observations

Over the period of April 8-11, 2013, the inspectors evaluated the licensee's corrective action program (CAP) as it pertains to the identification and resolution of conditions adverse to quality related to the seismic modification project. The licensee is tracking items associated with the seismic modification program for resolution. Inputs to the corrective action data base included quality assurance audit findings, non-conformance reports (NCRs), and items entered into the licensee's Items Tracking and Corrective Action (ITCA) data base. Selected ITCA's were reviewed and discussed with licensee personnel to determine the adequacy of corrective actions.

Over the period of May 6-9, 2013, the inspectors continued their evaluation of the licensee's CAP. Inspectors reviewed the action item listing maintained by the licensee. The inspectors noted that the majority of items had been addressed and were closed. Corrective actions were reviewed for selected action items that had been closed with no issues noted. Based on a review of documentation and interviews with responsible personnel, inspectors determined that open items relating to the seismic modification project were being addressed in accordance with the licensee's CAP.

(2) Conclusion

No violations of NRC requirements were identified.

3. Operator Training (88010)

a. Inspection Scope and Observations

Over the period of April 29 – May 2, 2013, the inspectors evaluated the licensee's Operator Training program. The inspectors reviewed the Operator Training program and evaluated the program with regards to the ongoing seismic modification work activities and the impact of the associated plant modifications on the Operator Training program. The inspectors interviewed training coordinators and responsible personnel concerning changes to the training program in the past year and reviewed applicable training program procedures. The inspectors noted that additional training coordinator positions had recently been added to the training organization. Based on interviews and a review of documentation the inspectors determined that the newly assigned training coordinators were qualified in accordance with the licensee's program.

The inspectors noted that operating procedures were controlled by the revision process to reflect changes made to the facility as part of the seismic modification program. These changes included listing of newly installed UF₆ system isolation valves, descriptions of the controls associated with the seismic shutdown system, and details associated with operator response to new alarm features. The inspectors determined that the procedure revisions adequately addressed those changes to plant systems and components that impacted plant operations. Based on interviews and a review of documentation the inspectors determined that the status of procedure changes was controlled and tracked in accordance with the licensee's document control program.

The inspectors discussed and evaluated completed task performance evaluations and evaluation records for returning operators. The inspectors interviewed training coordinators regarding the recently completed training for returning operations personnel. The inspectors determined that the training was conducted in accordance with the license and approved procedures.

The inspectors reviewed operator lesson plans and examinations. The inspectors verified that key objectives from lesson plans were incorporated in the examinations and these exams were properly controlled to ensure that exam materials were not compromised. The inspectors determined that trainee understanding and command of learning objectives were evaluated as required by the license. The inspectors evaluated changes in selected examinations to verify that the examination adequately tested the skill levels of the staff.

b. Conclusion

No violations of NRC requirements were identified.

4. Evaluation of Exercises and Drills (88051)

a. Inspection Scope and Observations

The inspectors observed an annual emergency preparedness plan exercise conducted on May 16, 2013. The exercise was conducted to implement a commitment of Confirmatory Order EA-12-157. The exercise scenario was a simulated severe seismic event causing a release of hydrogen fluoride (HF) from the FMB, along with a simulated contaminated, injured worker. The inspectors observed the licensee mobilize the emergency operations center (EOC), the crisis management center, the incident

command control point, and conduct personnel accountability. The inspectors observed emergency response team (ERT) personnel don appropriate HazMat gear, perform search and rescue for a missing exercise participant, decontaminate simulated injured participants and HazMat responders, and isolate the simulated HF leak. The inspectors also observed the licensee's interface with offsite support including the state liaison, local fire department, and ambulance personnel.

Based upon the exercise scenario, the inspectors observed the licensee appropriately classify the postulated emergency as a site area emergency (SAE) in accordance with approved procedures.

The inspectors observed three exercise critiques, one for the personnel in the field and one for the EOC participants at the EOC, as well as an offsite EOC critique. Participants in both debriefs spoke in a roundtable like setting, each providing comments and/or suggestions for emergency plan program and exercise improvements. The opportunities for improvement were identified during these critiques were captured in the licensee's corrective action program, under incident report IR-13-0948. The inspectors determined that the overall exercise activities were conducted in accordance with the licensee's emergency plan, response procedures, and the regulatory requirements of 10 CFR 40.31(j)(3)(xii), "Exercises."

The inspectors observed a table top exercise conducted by the licensee on June 5, 2013. Participants included licensee EOC positions, and representatives from IEMA, local offsite support participants, and the NRC. The purpose of the table top exercise was to demonstrate the ability to adequately coordinate offsite and onsite response for a simulated seismic event impacting the ability of offsite agencies to provide support to licensee recovery efforts. Such issues as the impact of after-shocks on recovery efforts, the availability of offsite agencies to provide fire-fighting and medical support, the full impact of loss of offsite power on licensee facilities and capabilities, availability of off-shift employees to reach the site were covered as part of the table top exercise. The inspectors determined that these topics were adequately addressed during the table top exercise.

The inspectors reviewed the results of a site accountability drill performed on May, 30, 2013, to verify the effectiveness of the site's personnel accountability process. A complete census of all 411 on site personnel was completed successfully.

Based on interviews with licensee personnel, the inspectors noted that a training demonstration was performed for the ERT members to demonstrate their ability to don contamination suits using nitrile gloves with talcum powder applied. This was performed in response to difficulties team members had with nitrile gloves sticking to the suit's rubber gloves during the May 16, 2013 emergency plan exercise. Using talcum powder successfully allowed the donning of the suits with no difficulties.

b. Conclusion

No violations of NRC requirements were identified.

5. **Operational Readiness Review**

a. Inspection Scope and Observations

Over the period of June 3-5, 2013, the inspectors evaluated the licensee's overall readiness to resume safe plant operations. The inspection scope included a review of completed modification work packages including field walk downs and interviews with project personnel. The inspectors reviewed the status of operator training and qualifications to confirm that sufficient numbers of trained and qualified operators were available to support restart of the facility. Based on interviews and a review of documentation, the inspectors noted that the licensee had developed an operator training schedule to complete training for those operators who had recently returned to work. The inspectors noted that minimum qualified staffing levels for all shifts were available to support plant operations.

The inspectors reviewed completed CGD plans, supporting documentation and the schedule for preventative maintenance and surveillance testing of Plant Features And Procedures required to support plant startup, for completeness and accuracy. Items entered into the licensee's corrective action program were reviewed to confirm that conditions adverse to quality or items required to support implementation of the Confirmatory Order were appropriately disposition and corrective actions implemented.

The inspectors performed plant walk downs to observe the overall readiness of plant systems and components to support resumption of plant operations. Observations and interviews with control room staff, operators, and support personnel were conducted to verify that personnel were knowledgeable of recent plant modifications and their impact on plant operations. Interviews with project personnel indicated that all major modification work activities were essentially complete and that miscellaneous activities, such as the removal of scaffolding and completion of minor punch list items, were scheduled to be completed within the next several days.

The inspectors reviewed procedures and operator training manuals to ensure that appropriate revisions due to changes in plant equipment and components resulting from the seismic modification program had been issued and available to plant personnel. Based on discussions with licensee personnel and a review of documentation the inspectors determined that procedures had been revised and were available to support training activities and plant operations and those procedure revisions accurately reflected the changes to plant systems and components.

b. Conclusion

No violations of NRC requirements were identified.

6. **Exit Meeting**

The inspection scope and results were presented to you and members of your staff at various meetings throughout the inspection period and were summarized on April 11, May 9, May 17, and June 5, 2013. No dissenting comments were received. Proprietary information was discussed but not included in this report.

SUPPLEMENTAL INFORMATION

1. List of Persons Contacted

R. Allhouse
S. Anderson, Training Coordinator
D. Curran, Training Coordinator
E. Donohugh, QA
J. Elrod, Project Manager
C. Flannery, Project Manager
M. Gentry, Bowen Engineering
S. Gliden, USW Local Vice President
N. Gould, ABS Consulting
S. Jimenez, Project Leader
J. Johnson, QA
G. Lundeen, Procurement
J. McConnel, MI&R Manager
T. McHugh, Bowen Engineering
M. Mina, QA Supervisor
E. Musselman, Training Coordinator
T. Noll, Engineering Manager
S. Patterson, QA
D. Plummer, Project Manager
J. Price, Operations Manager
J. Snellings, QA
B. Stokes, Regulatory Affairs Manager
J. Taylor, Training Coordinator
E. Thweatt, Project Manager
K. Whitmore, Enercon
J. Wilham, HR Manager
M. Wolf, Nuclear Compliance Director

2. List of Items Opened or Closed

None

3. Inspection Procedures Used

88010 Operator Training
88051 Evaluation of Exercises and Drills
88070 Permanent Plant Modifications

4. List of Documents Reviewed

Quality Assurance

Honeywell Metropolis Works Seismic Improvement Project Quality Plan, Revision (Rev.) 2,
dated January 29, 2013

Procedures

MTW-ADM-REG-0100, Rev. 0, Corrective Action Program
MTW-ADM-ENG-0015, Rev. 0, Development of Construction Packages
MTW-ADM-TRN-0701, Rev. 8, Conduct of Training
MTW-POL-TRN-005, Rev. 0, Qualification Testing
MTW-TRN-TDQ1-0001, Rev. 6, Task Performance Evaluation, Distillation Operator
MTW-TRN-TDQ2-0001, Rev. 4, Task Performance Evaluation, Assistant Distillation Operator – Distillation Startup
MTW-TRN-TDQ2-0002, Rev. 6, Task Performance Evaluation, Assistant Distillation Operator
MTW-TRN-TDQ2-0003, Rev. 3, Task Performance Evaluation, Assistant Distillation Operator – Distillation Operation
MTW-TRN-TDQ2-0004, Rev. 4, Task Performance Evaluation, Assistant Distillation Operator – Distillation Abnormal and Emergency Ops and Support
MTW-TRN-TDQ2-0005, Rev. 6, Task Performance Evaluation, Assistant Distillation Operator Alarm and Indicator Response
MTW-TRN-TDQ2-0100, Rev. 0, Task Performance Evaluation, Distillation Operator/ Distillation Assistant Annual Evaluation
MTW-TRN-TFQ2-0100, Rev. 0, Fluorination Assistant Annual Evaluation
MTW-SOP-F2N-0100, Rev. 23, Fluorination Startup
MTW-SOP-F2N-0200, Rev. 23, Fluorination Operation
MTW-SOP-DIS-0100, Rev. 16, Distillation Startup
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MTW-ADM-EPIP-0001, Rev. 2, Identification and Reporting of Emergency Conditions
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MTW-ADM-EPIP-0004, Rev. 2, Emergency Response Organization Activities
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MTW-ADM-EPIP-0009, Rev. 3, Chemical release Control
MTW-ADM-EPIP-0011, Rev. 2, Responding to Credible Airborne Threats
MTW-ADM-EPIP-0012, Rev. 0, Transportation Emergency Response
MTW-ADM-EPIP-0013, Rev. 0, Natural Disaster: Tornado, Thunderstorm, Flooding, and Earthquake
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MTW-MAN-F2N-0010, Rev. 1, dated May 22, 2013, Fluorination System Manual
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 Operation
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 Tertiary Cold Traps
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 Nitrogen Pressure
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 MTW-MAN-GSO-0010, Rev. 3, dated May 23, 2013, Green Salt Systems Manual
 MTW-ADM-MI-0011, Commercial Grade dedication, Rev. 1, dated December 17, 2012
 MTW-ADM-MI-0005, Equipment Criticality Classifications, Rev. 0, dated January 18, 2013

Construction Work Packages

Seismic Structural Upgrades, FMB Building Structural Installation, AR#1035EP8854-1-3,
 Rev. 3
 Seismic Structural Upgrades, FMB Building Pushover Scope Installation, AR# 1035EP8854-
 1-3, Rev. 2
 Tornado Protection Liquid UF6 Containment Vessels, FMB-Distillation Area AR#
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 Demo of HF Railcar Unloading Station Project, 1318012779, Rev.1
 Ammonia Tank EXV, 131801272, Rev. 1
 Three Way Valve for Natural Gas Line, 131631355, Rev. 2
 Liquid UF6 Isolation Valve Project, 121661163, Rev. D

Drawings

ABS Consulting Drawing No. ACS-750-C4594-01, Rev. 2, dated April 26, 2013
 ABS Consulting Drawing No. ACS-750-C4594-02, Rev. 0, dated December 21, 2012
 ABS Consulting Drawing No. ACS-750-C4594-04, Rev. 1, dated February 28, 2013
 ABS Consulting Drawing No. ACS-750-C4594-05, Rev. 1, dated February 28, 2013
 ABS Consulting Drawing No. ACS-750-C4594-06, Rev. 2, dated February 28, 2013
 ABS Consulting Drawing No. ACS-750-C4594-07, Rev. 9, dated April 26, 2013
 ABS Consulting Drawing No. ACS-750-C4594-08, Rev. 7, dated April 26, 2013
 ABS Consulting Drawing No. ACS-750-C4594-09, Rev. 7, dated April 18, 2013
 ABS Consulting Drawing No. ACS-750-C4594-10, Rev. 8, dated April 18, 2013
 ABS Consulting Drawing No. ACS-750-C4594-11, Rev. 1, dated February 28, 2013
 ABS Consulting Drawing No. ACS-750-C4594-12, Rev. 3, dated April 18, 2013
 ABS Consulting Drawing No. ACS-750-C4594-13, Rev. 2, dated February 28, 2013
 ABS Consulting Drawing No. ACS-750-C4594-14, Rev. 6, dated April 12, 2013
 ABS Consulting Drawing No. ACS-750-C4594-15, Rev. 3, dated April 26, 2013
 ABS Consulting Drawing No. ACS-750-C4594-16, Rev. 5, dated April 26, 2013

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 ABS Consulting Drawing No. ACS-750-C4594-18, Rev. 1, dated April 02, 2013
 ABS Consulting Drawing No. ACS-750-C4594-19, Rev. 2, dated April 26, 2013
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 ABS Consulting Drawing No. ACS-750-C4594-21, Rev. 0, dated April 26, 2013
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 Honeywell Drawing No. ACS-166-C4608-03, Rev. WIP, dated January 25, 2013
 Honeywell Drawing No. ACS-166-C4608-04, Rev. WIP, dated January 25, 2013
 Honeywell Drawing No. ACS-166-C4608-05, Rev. WIP, dated January 25, 2013

Miscellaneous Documents

General Awareness Training, May 2013, Honeywell MTW Seismic and Emergency Upgrades
 Powerhouse Specific Training, May 2013, Honeywell MTW Seismic and Emergency Upgrades
 Green Salt Specific Training, May 2013, Honeywell MTW Seismic and Emergency Upgrades
 Fluorine Plant Specific Training, May 2013, Honeywell MTW Seismic and Emergency Upgrades
 Distillation Specific Training, May 2013, Honeywell MTW Seismic and Emergency Upgrades
 Fluorination Specific Training, May 2013, Honeywell MTW Seismic and Emergency Upgrades
 Task Performance Evaluation, MTW-TRN-TFQ2-0100, Rev. 0, Fluorination Assistant Annual Evaluation
 Task Performance Evaluation, MTW-TRN-TDQ2, Rev. 0, Distillation Operator/Distillation Assistant Annual Evaluation
 Task Performance Evaluation, MTW-TRN-TFQ1-0100, Rev. 0, Fluorination operator Annual Evaluation
 Seismic Shutdown System Testing and Verification, Rev. 1
 Metropolis Works (MTW) Tornado Missile Penetration of Vessels, calc MTW-CALC-GEN-0009, Rev. 0
 Metropolis Works (MTW) Tornado Strike Likelihood, Calc No. MTW-CALC-GEN-005, Rev. 0
 Seismic Structural Upgrades FMB Building Structural Installation, MTW AR 1035EP8854-1-3, Rev. 3
 Tornado Protection Liquid UF6 Containment Vessels, AR 1035EP8854-1-3-1 Rev. 0
 Fabrication records from contractor Precision Steel for Tornado Panels

- Tornado Protection Frames Drawings Nos. 1-4 (all Rev. 1)
- Weld inspection documents
- Welding procedure Specifications
 - GMAW Monel to CS-3 Rev. 0
 - GMAW Monel to CS-2 Rev. 0
 - GMS/MS Rev. 3
 - GMAW Monel to CS-1, Rev. 0
 - GTAW- Monel to Monel - 2 Rev. 0
 - GTAW - Monel to Monel, Rev. 0
- Welding Procedure Qualification Records
 - GMAW Monel to CS-3Q Rev. 0
 - GMAW Monel to CS-2Q

- MS/MS8
- GMAW Monel to CS-1Q Rev. 0
- GTAW - Monel to Monel - 2Q Rev. 0
- GTAW Monel to Monel - 1Q Rev. 0
- Requests for Information
 - EP8854-1-3-1-003
- Certified Material Test Reports
 - ERNiCu-7 Lot MM79P9GR
 - ERNiCu-7 Lot MM77P6GR
 - ERNiCr-3 Lot NX81W4D
 - ERNiCr-3 Lot NX82W9D

Bowen documents:

- Control of Welding Filler Materials, 15W-1505, Rev. 2
- welding rod issue log dated April 9, 2013
- Standard Welding Procedure Specification for Shielded Metal Arc Welding of Carbon Steel, 1/8 through 1-1/2 inch Thick, E7018, As-welded or PWHT Condition
- Welding Procedure A-2, Rev. 03-2000
- Welding Procedure A-1, Rev. 03-2000
- Welder Performance Qualification Records
 - A9150
 - B-2415
 - B-3225
 - C1611
 - D9699
 - D8163
 - K9561
- Site Welding Standard, 14A-1405-05, Rev. 0
- Visual Examination of Welds, 18W-1815, Rev. 0