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

July 26, 2010

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

SUBJECT: NRC INSPECTION REPORT NO. 40-3392/2010-001 AND NOTICE OF VIOLATION

Dear Mr. Smith:

This refers to the inspection conducted from April 26-30, and May 3-7, 2010, at the Honeywell Metropolis Works facility. This also refers to a subsequent telephone conference call between NRC and licensee personnel to gather additional information in support of the inspection. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. Following the conclusion of the inspection on May 11, 2010, the inspectors discussed the findings with Mr. Mike Greeno and other members of your staff.

The inspections 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 inspections included Radiation Protection and Maintenance & Surveillance of Safety Controls. Within these areas, the inspections consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

Based on the results of these inspections, the NRC has determined that a Severity Level IV violation of NRC requirements occurred. The violation involved two examples of failure to perform adequate surveys as they relate to the analysis and evaluation of uranium bioassay samples. The violation was evaluated in accordance with the NRC Enforcement Policy included on the NRC's Web site at http://www.nrc.gov/about-nrc/ regulatory/enforcement/enforce-pol.html**.** The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the enclosed inspection report. The violation is being cited in the Notice because it was NRC identified.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. For your consideration in presenting the corrective actions, the guidance from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," is available on the NRC website and may be helpful. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response 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/readingrm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

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

Sincerely,

/RA by JHenson/

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

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

Enclosures:
1. Notice of Violation
2. NRC Inspection Report 40-3392/2010-001

cc w/encls:
Gary Wright
Emergency Management Agency
Division of Nuclear Safety
Electronic Mail Distribution

Distribution w/encls:
M. Tschiltz, NMSS
T. Hiltz, NMSS
J. Henson, RII
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J. Pelchat, RII

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ADAMS: ☐ Yes ACCESSION NUMBER:_____ √ SUNSI REVIEW COMPLETE

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NOTICE OF VIOLATION

Honeywell International, Inc.
Metropolis, Illinois

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

During NRC inspection activities conducted between April 26 and May 7, 2010, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 20.3 defines a survey as an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. When appropriate, such an evaluation includes a physical survey of the location of radioactive material and measurements or calculations of levels of radiation, or concentrations or quantities of radioactive material present. 10 CFR 20.1501(a) requires that each licensee shall make or cause to be made, surveys that may be necessary for the licensee to comply with the regulations in 10 CFR 20; and that are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels; concentrations or quantities of radioactive material; and, the potential radiological hazards.

a. 10 CFR 20.1201 requires that the licensee control the occupational dose to individual adults, an annual limit, which is the more limiting of the total effective dose equivalent (TEDE) being equal to 5 rems (0.05 Sv); or the sum of the deep-dose equivalent and the committed dose equivalent (CDE) to any individual organ or tissue other than the lens of the eye being equal to 50 rems (0.5 Sv). 10 CFR 20.2106 further requires a licensee to maintain records of the total organ dose equivalent (TODE), which is the sum of the deep dose equivalent (from external exposure) and the CDE, for the organ receiving the highest total dose.

   Contrary to the above, as of April 30, 2010, the licensee did not make adequate surveys to evaluate radiological conditions and demonstrate compliance with the requirements of 10 CFR 20.1501. Specifically, the licensee failed to sum the results of results of routine bioassays and the results of bioassays collected after potential acute exposures in determining occupational exposures. Also contrary to the above, in evaluating the TODE, the licensee did not use the dose conversion factors for the organ receiving the highest total dose.

b. 10 CFR 20.1204(a) states, in part, that for purposes of assessing dose used to determine compliance with occupational dose equivalent limits, the licensee shall take suitable and timely measurements of the quantities of radionuclides excreted from the body. 10 CFR 20.1204(g) further states that when a mixture of radionuclides in air exists, licensees may disregard certain radionuclides in the mixture if, in part, the licensee uses the total activity of the mixture in demonstrating compliance with the dose limits in 10 CFR 20.1201.

Contrary to the above, as of April 30, 2010, the licensee did not make adequate surveys to evaluate radiological conditions. Specifically, licensee bioassay measurements did not measure the total activity present in samples. In addition, since the mixture being considered was not a mixture in air, the licensee did not satisfy the requirements in 10 CFR 20.1204(g) to disregard concentrations of radionuclides in a mixture.

This violation is a Severity Level IV problem (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Honeywell International, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this violation or its significance, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region II, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-001.

Because your response 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. To the extent possible, it should not include any personal privacy, proprietary, classified, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 26th day of July, 2010

U. S. NUCLEAR REGULATORY COMMISSION
REGION II

Docket No.:	40-3392
License No.:	SUB-526
Report No.:	40-3392/2010-001
Licensee:	Honeywell International, Inc.
Facility:	Honeywell Metropolis Works
Location:	Metropolis, Illinois
Dates:	April 26 through May 7, 2010
Inspectors:	John Pelchat, Senior Fuel Facilities Inspector David Hartland, Senior Fuel Facilities Inspector
Accompanied by:	Sandra Mendez-Gonzalez, Fuel Facilities Inspector-in-Training Gregory Goff, Nuclear Engineer-in-Training Sonia Burgess, Senior Project Inspector
Approved by:	Jay L. Henson, Chief Fuel Facility Inspection Branch 2 Division of Fuel Facility Inspection

Enclosure 2

EXECUTIVE SUMMARY

HONEYWELL INTERNATIONAL, INC.
NRC INSPECTION REPORT 40-3392/2010-001

This inspection consisted of examinations of procedures and representative records, interviews with personnel, and observation of activities in progress in the areas of Radiation Protection and Maintenance and Surveillance.

Radiation Protection

- The implementation of the radiation protection program, changes of radiation protection procedures, and staffing were in accordance with procedural and license requirements.

- The instrument and equipment calibrations were in accordance with procedure and license requirements. (Paragraph 2.a)

- The postings, labeling, and surveys were in accordance with procedure and regulatory requirements. (Paragraph 2.a)

- The licensee was in compliance with radiation protection reporting requirements. (Paragraph 2.a)

- A violation with two examples was identified for the failure to perform adequate surveys to evaluate radiological conditions. In the first example, the licensee did not sum the results of routine and non-routine bioassays to determine the resultant Committed Effective Dose Equivalent for occupational workers. Further, in evaluating the Total Organ Dose Equivalent, the licensee did not use the dose conversion factors for the organ receiving the highest total dose. In the second example, the licensee did not measure the total activity in bioassay samples. (Paragraph 2.a)

Maintenance & Surveillance of Safety Controls

- The inspectors observed testing of Plant Features and Procedures (PFAPS) 76 and reviewed work packages that documented the latest testing to verify other active engineered control under NRC jurisdiction (i.e., PFAPS 35, 37, 38, 77, and 78) would perform its intended safety function. The inspectors were able to verify that testing of those PFAPS were not overdue at the time of the inspection and that the last tests had been completed successfully. (Paragraph 3.a)

- The inspectors observed the replacement of a primary cold trap safety valve and determined that the activity was conducted in accordance with regulatory requirements. (Paragraph 3.a)

- The inspectors verified that select maintenance supervisors were qualified in accordance with regulatory requirements. (Paragraph 3.a)

- The inspectors identified no other violations of NRC requirements that had more than minor safety significance. (Paragraph 3.a)

Attachment:
Listing of Persons Contacted
List of Items Opened, Closed and Discussed
Inspection Procedures Used

REPORT DETAILS

1. Summary of Plant Status

The Honeywell Specialty Chemicals (licensee) uranium conversion facility 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 Feed Materials Building (FMB).

2. Radiation Protection (IP 88030)

a. Inspection Scope and Observations

The inspectors discussed organizational issues and personnel responsibilities with the Radiation Program Protection Manager (RPPM). The licensee has increased the size of the health physics staff by adding two additional contractor health physics technicians. The program employed four health physicists (including the RPPM), nine full-time health physics technicians, and one part-time technician. No other significant organizational changes related to radiation protection were made by the licensee since the last inspection. The inspectors verified that the RPPM reports to senior management as required by the site license.

The licensee implemented its radiation protection program in accordance with procedure MTW-ADM-HP-0100, “Radiological Protection Program”. The inspectors reviewed programmatic changes to the radiation protection program were made in accordance with the licensee’s control of change process. Changes to the program included a revision regarding respiratory protection requirements. The licensee requested an amendment of its NRC license to drop the requirement for visitors to carry half-face respirators inside the FMB. After review, the NRC granted the licensee’s request and amended the license to authorize deleting the respirator requirement. Accordingly the licensee made a procedural change to relax the requirement for all individuals in the restricted area to carry a half-face respirator at all times.

The intent of the previous requirement was that the respirator would be used as an escape device in the event of a release of uranium hexafluoride (UF_6) or other dangerous airborne materials.

The licensee’s basis for the change was based on three considerations:

(1) OSHA requirements for personnel required to use a respirator must be medically evaluated;

(2) OSHA requirements that persons entering an area where a respirator is required be specifically trained for the hazard present and how to properly wear the respirator; and,

(3) Concern that a visitor or other untrained personnel might have unrealistic perceptions about the protection provided by an air-purifying respirator, especially in the event of a release of UF_6 or other materials on site that may create an atmosphere immediately dangerous to life and health for which a half-face respirator would not provide adequate protection.

The licensee still required that any licensee or contractor personnel entering an area of elevated airborne concentrations of radioactive materials, as designated by flashing red lights, to be appropriately qualified to wear respiratory protection. Other non-respirator qualified personnel, including visitors were required to leave an area when the flashing red lights are illuminated. Another significant program change was the NRC amendment of the license to authorize a surface contamination limit of 75,000 disintegrations per minute per 100 square centimeters, in conjunction with additional housekeeping efforts to minimize contamination levels within the FMB.

The inspectors examined the licensee's program to keep exposures As Low As Reasonable Achievable (ALARA). The inspectors reviewed ALARA Committee Meeting minutes and determined that the committee was briefed on trends in occupation exposures for both employees and contractors working on site, levels of radiocontamination, levels of airborne radioactive materials in the sampling plant and the FMB, and effluent releases of licensed materials. Trends in occupational exposures and effluent releases had trended up although they remained well below any applicable regulatory limit or constraint.

The inspectors determined that the committee also reviewed the results of housekeeping measures and noted that the licensee continued efforts to reduce contamination levels in the FMB. For example, through interviews and review of records, the inspectors found that the licensee had initiated a practice of supervisors walking down areas in the FMB on a weekly basis to identify and photograph areas requiring housekeeping attention. The images were compiled and provided to FMB staff with instructions to correct the observed problems. The inspectors reviewed hard copies of the images and interviewed licensee personnel to verify that corrective actions had been assigned to responsible plant personnel. Discussions with plant personnel indicated that the licensee had begun long-term design work for a new ore preparation process facility specifically designed to maintain containment of licensed materials and to reduce the level of intrusive maintenance and the associated potential to create contamination.

Through review of records, the inspectors determined that the ALARA Committee met at least quarterly in accordance with license requirements.

The inspectors reviewed selected external and internal dosimetry records and determined that the records were complete and contained information equivalent to the requirements of an NRC Form 5 record. The licensee issued Optically Stimulated Luminescence (OSL) dosimeters to about 800 licensee employees and contractors working in the vicinity of licensed material. Licensee personnel were observed to be wearing OSL's as required.

The inspectors reviewed the licensee's implementation of its bioassay program used to determine the contribution from internally deposited licensed materials to occupation dose.

10 CFR 20.1501 requires that each licensee shall make surveys that may be necessary for the licensee to comply with the NRC's radiation protection standards specified in 10 CFR 20.

10 CFR 20.1201 requires that the licensee control the occupational dose to individual adults, an annual limit, which is the more limiting of the total effective dose equivalent (TEDE) being equal to 5 rems (0.05 Sv); or the sum of the deep-dose equivalent and the committed dose equivalent (CDE) to any individual organ or tissue other than the lens of the eye being equal to 50 rems (0.5 Sv). 10 CFR 20.1501 requires that each licensee shall make surveys that may be necessary for the licensee to comply with the NRC's radiation protection standards specified in 10 CFR 20. 10 CFR 20.2106 requires a licensee to maintain records of the total organ dose equivalent (TODE), which is the sum of the deep dose equivalent (from external exposure) and the CDE, for the organ receiving the highest total dose.

Through review of bioassay records and interviews of licensee employees, the inspectors determined that in calculating the CDE and total effective dose equivalent (TEDE), the licensee evaluated internal intakes separately depending on whether bioassay data are associated with a routine sample or a special sample collected in response to a potential contamination event exposure or other unusual circumstance. However, the licensee did not incorporate the results of special bioassay samples when calculating the CDE. Also, when calculating the CDE from chronic exposures, the licensee utilized dose conversion factors for an organ other than that receiving the highest total dose.

The inspectors performed an assessment of the licensee's bioassay results to ensure that occupational dose limits had not been exceeded. To determine compliance with the 5 Rem TEDE limit, measured uptakes of uranium are compared to a stochastic annual limit of intake (SALI). This limit is dependent on the chemical form of the uranium ingested and is calculated to determine what amount of uranium would result in a dose of 5 Rem to the entire body. Given that the dose conversion factor for uranium tetrafluoride (UF_4) is 86.17 Rem per microcurie (Rem/uCi), the resultant SALI is 0.058 uCi.

Likewise, to determine compliance with the 50 Rem TODE limit, measured uptakes of uranium are compared to a non-stochastic annual limit of intake (NALI). This limit is also dependent on the chemical form of the uranium ingested and is calculated to determine what amount of uranium would result in a total organ dose of 50 Rem. Given that the dose conversion factor for uranium tetrafluoride (UF_4) is 710.2 Rem per microcurie (Rem/uCi) where the critical organ is the lung, the resultant NALI is 0.070 uCi.

The inspectors verified that the licensee was calculating the TEDE properly. Since the SALI used to demonstrate compliance with the 5 Rem TEDE limit is lower than the NALI for the lung that is used to demonstrate compliance with the 50 Rem TODE limit, it would not be possible to exceed the 50 Rem TODE limit before exceeding the 5 Rem TEDE

limit. As such, because the 5 Rem TEDE limit had not been exceeded, it can be postulated the 50 Rem TODE limit had not been exceeded. Therefore, while the inspectors determined that the licensee was improperly calculating TODE, they concluded that in no case did a measured uranium uptake result in a TODE that approached or exceeded regulatory limits. The failure to conduct adequate surveys, as evidenced by the failure to properly sum the bioassay data associated with "chronic" exposures and "acute" exposures to determine TODE and CDE along with the failure to use the dose conversion factors for the organ receiving the highest total dose was identified as a violation of 10 CFR 20.1501. (VIO 04003392/2009-01)

10 CFR 20.1204(a) states that for purposes of assessing dose used to determine compliance with occupational dose equivalent limits, the licensee shall take suitable and timely measurements of concentrations of radioactive materials in air in work areas; or quantities of radionuclides in the body; or quantities of radionuclides excreted from the body; or combinations of these measurements. 10 CFR 20.1204(g) further states that when a mixture of radionuclides in air (emphasis added) exists, licensees may disregard certain radionuclides in the mixture if, in part, the licensee uses the total activity of the mixture in demonstrating compliance with the dose limits in 10 CFR 20.1201.

During interviews discussing the methods the licensee used to assess internal exposures, licensee personnel stated that they disregarded uranium daughter products and other radiological impurities as justified in a licensee memorandum entitled "Thorium Concentrations in Workroom Air (NRC Information Notice No. 92-34) dated June 10, 1992, This memorandum stated the concentrations of thorium in air met the criteria in 10 CFR 20.1204(g) which allows concentrations of radionuclides in a mixture to be disregarded if certain conditions are met.

However, the licensee performed bioassay using Kinetic Phosphorescence Analysis (KPA) to measure the concentration of uranium in urine, to ascertain occupational uptakes of uranium and the resultant dose, in order to demonstrate compliance with 10 CFR 20.1201. KPA is chemically specific for uranium and the results of that method only measures the uranium present. The licensee was not performing any other analysis to determine the dose contribution resulting from uptake of thorium or any other radionuclides that may be expected to contribute to occupational dose. As a result, the licensee's measurements did not account for all of the activity that would contribute to occupational dose and the dose would be underestimated. In addition, since the mixture being considered was not a mixture in air, the inspectors determined that the licensee did not satisfy the requirements in 10 CFR 20.1204(g) to disregard concentrations of radionuclides in a mixture.

As noted above, the inspectors performed an assessment of the licensee's material data and exposure estimates to ensure that occupational dose limits had not been exceeded. Using appropriate dose conversion factors for the isotopes indicated in the licensee's materials analysis, the inspectors determined, if accounted for properly, that the impurities present would only increase the total exposure by approximately 2% above that resulting from uranium alone. Because exposures at the licensee site are much

lower than 98% of the regulatory limit, it is not likely that any regulatory limits would have been exceeded if the licensee had properly scaled intakes and exposures. The failure to perform adequate surveys, in that the license did not account for the total activity as required in 10 CFR 20.1204(g) was identified as an additional example of a violation of 10 CFR 20.1501. (VIO 04003392/2009-01)

The licensee informed the inspectors that they were evaluating the impact of other radionuclides because parts of the UF_6 production process may concentrate these nuclides more than is normally present in the uranium materials upon which these evaluations are based (e.g., in the spar filter fines). While the results of these evaluations were pending, it was not expected that the concentration of these nuclides in plant processes would result in the exceedance of any limit. Licensee personnel stated that it was it is expected that the current evaluation will be completed prior to May 2011.

The licensee is also making an assessment to verification of the solubility class of materials being utilized to assign dose conversion factors and evaluate bioassay data. Licensee personnel stated that that the most common class of mixtures is 32% class D and 68% class Y for UF_4. The other mixture of materials (40% class D and 60% class Y) is for “ore” or “yellow cake” (U_3O_8). Licensee personnel stated that documentation that established the basis for this assignment of solubility classes was unavailable. Licensee personnel stated that it was it is expected that this additional evaluation will be completed prior to May 2011.

The inspectors reviewed the Quality Assurance (QA) program that the licensee implemented to ensure the accuracy of bioassay results used as the basis for assigning exposures and for ensuring that occupational doses remained below regulatory limits. The inspectors found that minimal Quality Control (QC) procedures were being performed. The inspectors determined that the QA program for bioassay samples met the applicable regulatory requirements.

The inspectors reviewed a representative sample of incident reports documenting the licensee’s investigation for events and the corresponding evaluations and dose assessments. The review found no evidence that regulatory exposure limits were exceeded as a result of these events.

The maximum occupational dose received by plant personnel in 2009 was 1.74 Rem TEDE and the average occupational dose received by plant personnel in 2009 was 0.197 Rem TEDE, well below the maximum permissible dose of 5 Rem specified in 10 CFR 20.1201

The inspectors concluded based on review of licensee records, along with their independent analysis, that despite the errors documented above, the licensee adequately controlled the occupational dose of individuals working at the facility.

The inspectors reviewed the Semiannual Health Physics Review documents for 2009 and determined that the quantities of licensed materials released from the FMB was higher than that of the previous year. Licensee personnel interviewed determined that the increase in airborne contamination was likely due to increased maintenance activities. As noted above, ALARA reviews also indicated an increase in the average worker exposure in 2009, but in no case had any occupational dose limit been approached or exceeded.

The inspectors observed Health Physics personnel in the field collecting air samples from various fixed sampling locations within the FMB. The inspectors noted that air sampling collection and handling techniques were performed in accordance with approved procedures. The inspectors reviewed air sample results and the corresponding records for respiratory use for areas of the FMB. The inspectors found that respirators were prescribed based on air sample results, visible contamination events, and activities projected to produce elevated airborne contamination in accordance with approved procedures. Plant personnel interviewed stated that the use of respiratory protection was increased over the past year as the result of increased maintenance activities that required the opening of plant systems that posed the potential to create elevated levels of airborne radioactive material. The increased use of the red lights in the FMB to signal the requirement to use respirators was noted as a conservative measure in response to this increase in maintenance activity. Inspectors also observed the collection and analysis of wipe samples for radiocontamination.

The inspectors observed that wipe sampling collection and handling techniques were performed in accordance with approved procedures. The inspectors reviewed wipe sample results for areas of the FMB and for areas where the licensee allowed eating within the restricted area. Interviews of personnel and review of records indicated that when samples indicated the presence of more than 75,000 dpm/100cm^2, the licensee initiated action to decontaminate the area. Records indicated and observation of licensee personnel indicated that the effectiveness of decontamination was verified by follow-up sampling.

The inspectors observed the respirator fit-testing and the initial respiratory protection training programs. The inspectors found that the respirator training and fit-test programs were conducted in accordance with approved procedures. The inspectors noted that the prescribed respirators were equipped with the appropriate cartridges to afford adequate protection against airborne radioactive material that may be encountered at the facility.

The inspectors examined the radiation survey instruments the licensee had on hand at the facility and determined that the licensee possessed a sufficient number of the appropriate types of instruments to assess the radiation hazards associated with licensed activities. Interviews of licensee personnel and examination of a representative sample of survey instruments indicated that the licensee calibrated radiation survey instruments at the frequency and in accordance with the procedures required in the license.

The inspectors examined four fixed gauges installed on hydrofluoric acid vaporizers located on the south pad adjacent to the FMB. Discussions with licensee personnel indicated that the previously installed specifically licensed gauges had been replaced with generally devices. The replacement of the devices was completed by a firm specifically licensed to service fixed gauges. The inspectors reviewed the requirements for the specifically licensed devices with licensee personnel, and indicated the licensee could amend the license to delete these requirements if it should so choose.

During a walk-down of the FMB and other areas where licensed materials are stored and handled, the inspectors observed that the licensee had adequately posted areas radiation areas and that radioactive material containers were appropriately labeled. The inspectors also observed that a sufficient number of NRC Form 3, "Notice to Employees", and other NRC required documents were posted throughout the facility.

b. Conclusion

Two examples of failure to conduct adequate surveys with regards to the analysis of and evaluation of uranium bioassay samples were identified as a violation. The inspectors identified no other violations of NRC requirements that had more than minor safety significance.

3. Maintenance & Surveillance of Safety Controls

a. Inspection Scope and Observations

The inspectors observed testing of Plant Features and Procedures (PFAPS) 76 and reviewed work packages that documented the latest testing to verify other active engineered control under NRC jurisdiction (i.e., PFAPS 35, 37, 38, 77, and 78) would perform its intended safety function. The inspectors were able to verify that testing of those PFAPS was not overdue at the time of the inspection and that the last tests had been completed successfully.

The inspectors observed the replacement of a primary cold trap safety valve and determined that the activity was conducted in accordance with regulatory requirements.

The inspectors verified that select maintenance supervisors were qualified in accordance with regulatory requirements.

b. Conclusion

The inspectors identified no violations of NRC requirements that had more than minor safety significance.

3. Follow-up of Previously Identified Issues

a. Violation (VIO) 04003392/2008006-01 Failure to Comply with Housekeeping Procedures

This violation involved the failure to maintain unobstructed access to all emergency equipment along with the failure to keep combustible waste material and residues to a minimum, stored in proper receptacles, and disposed of daily. The inspectors reviewed the corrective actions to verify that the licensee had taken actions that were adequate to prevent recurrence. The inspectors walked down the FMB and found that access to fire hose reels and the fire-fighting water supply valve for fire hoses was clear and free of obstructions. The inspectors did not observe any significant accumulations of trash and combustibles. The inspectors also observed packages of housekeeping assignments compiled on a weekly basis that included images of areas within the FMB requiring correction. This item is closed.

b. Violation (VIO) 04003392/2008004-01 Failure to Adequately Control Radioactive Contamination

This violation involved the failure to ensure a radioactive material spill was decontaminated in a timely manner; failure to initiate decontamination efforts and/or corrective actions upon report of a radioactive material spill or leak; and, maintain work areas in a clean and orderly fashion at all times. The inspectors reviewed the corrective actions to verify that the licensee had taken actions that were adequate to prevent recurrence. Generally speaking, the inspectors noted that radiological conditions within the FMB continued to show improvement. Licensee employees are reporting contamination or initiating decontamination of radioactive material spills. However, walkdowns of the FMB and the adjacent South Pad, the inspectors continued to note areas of apparent radioactive contamination resulting from system leakage, or potentially in some cases, inadequate work practices. This item remains open

4. Exit Meeting

The inspection scope and results were summarized on May 11, 2010, with M. Greeno, the Regulatory Affairs Manager and other members of the licensee's staff. Although proprietary information and processes were reviewed during this inspection, proprietary information is not included in this report.

ATTACHMENT

1. LIST OF PERSONS CONTACTED

L. Smith, Plant Manager
D. Palmer, Operations Manager
T. Barnes, Maintenance Manager
M. Greeno Regulatory Affairs Manager
R. Stokes, Radiation Program Protection Manager
R. Lindberg, Health Physics (Contractor)

Other licensee employees contacted included engineers, health physics technicians, production staff, security, and office personnel.

2. LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Item Number	Status	Description
40-3392/200806-01	Closed	Failure to Comply with Housekeeping Procedures
40-3392/200804-01	Reviewed/Open	Failure to Control Radioactive Contamination
40-3392/201001-01	Opened	Failure to Make Required Surveys with Two Examples

3. INSPECTION PROCEDURES USED

IP 88025 Maintenance & Surveillance of Safety Controls
IP 88030 Radiation Protection