

August 6, 2009

Mr. Mitch Tillman  
Plant Manager  
Honeywell Metropolis Works  
2768 North US 45 Road  
Metropolis, IL 62960

SUBJECT: APPROVAL OF AMENDMENT REQUEST TO MODIFY LICENSE APPLICATION  
CONCERNING CONTAMINATION LEVELS, HONEYWELL METROPOLIS  
WORKS (TAC NO. L32712)

Dear Mr. Tillman:

By letter dated March 27, 2009 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML090910146), as supplemented by letters dated May 11, 2009 (ADAMS Accession No. ML091340042) and July 31, 2009 (ADAMS Accession No. ML092180437), Honeywell Metropolis Works (MTW) submitted its license application amendment request to the Honeywell Source Material License No. SUB-526 involving changes to the facility's surface contamination levels.

The proposed license application amendment would revise the surface contamination levels for uranium and its daughter products to be consistent with the guidelines contained in Regulatory Guide (RG) 8.30, "Health Physics Survey in Uranium Recovery Facilities," Revision 1, dated May 2002. Specifically, the proposed limits for removable surface contamination levels would be 200 disintegrations per minute (dpm)/100 centimeter square (cm<sup>2</sup>) (alpha) for the Uncontrolled and Intermediate Areas, which is 20 percent of the limit in RG 8.30; and 75,000 dpm/100 cm<sup>2</sup> (alpha), which is 34 percent of the limit in RG 8.30, for the Controlled Areas of the facility.

By letter dated April 21, 2009 (ADAMS Accession No. ML091030016), the staff provided its request for additional information (RAI) regarding this license amendment request. On May 11, 2009 (ADAMS Accession No. ML091340042), the licensee provided its response to the staff's RAI. The staff reviewed the licensee's May 11, 2009, RAI response, and remained concerned of Honeywell MTW's proposal to increase its contamination control limits. Subsequently, on June 19, 2009, the staff provided additional questions as draft requests for additional information (D-RAIs) to the licensee via e-mail. On June 23, 2009, the staff held a telephone conference with Honeywell MTW to discuss the staff's D-RAIs involving changes to the facility's surface contamination levels. In order to allow the staff to perform a thorough review, during the telephone conference, Honeywell MTW agreed to provide supplemental information to its March 27, 2009, license amendment request. The staff's June 23, 2009, teleconference summary may be found under ADAMS Accession No. ML091770321.

At the request of the licensee, on July 16, 2009, the staff held another telephone conference with Honeywell MTW to clarify the questions discussed during the conference call previously held on June 23, 2009, concerning Honeywell MTW's proposed amendment. The staff's July 16, 2009, teleconference summary may be found under ADAMS Accession No. ML091980328.

As a result of the robust communications between the staff and the licensee, the staff's concerns were alleviated. In addition to its RAI response dated May 11, 2009, the licensee addressed the staff's concerns in its supplemental information submitted by letter dated July 31, 2009. The staff completed the review of the license amendment request and found the proposed revisions acceptable. The staff's Safety Evaluation Report is contained in Enclosure 1. Enclosure 2 contains Materials License SUB-526, Amendment 5, reflecting the revisions approved under this request.

Neither an environmental assessment nor an environmental impact statement is required for the proposed action because the requested license amendment is subject to the categorical exclusion provided in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 51.22(c) (11).

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

If there are any questions regarding this action, please contact Ms. Tilda Liu, Project Manager for Honeywell MTW, at (301) 492-3217 or via e-mail to [tilda.liu@nrc.gov](mailto:tilda.liu@nrc.gov).

Sincerely,

**/RA/**

Marissa G. Bailey, Deputy Director  
Special Projects and Technical  
Support Directorate  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

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

Enclosures: As stated

cc w/enclosures:  
Michael Greeno, Nuclear Regulatory Affairs Manager  
Honeywell International, Inc.  
P.O. Box 430  
Highway 45 North  
Metropolis, IL 62960

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Sincerely,

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Marissa G. Bailey, Deputy Director  
Special Projects and Technical  
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Docket No.: 40-3392  
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DOCKET NUMBER: 40-3392

LICENSE NUMBER: SUB-526

LICENSE HOLDER: Honeywell International  
Honeywell Metropolis Works  
Metropolis, IL

SUBJECT: SAFETY EVALUATION REPORT FOR AMENDMENT REQUEST TO  
MODIFY LICENSE APPLICATION CONCERNING CONTAMINATION  
LEVELS, HONEYWELL METROPOLIS WORKS (TAC NO. L32712)

## 1.0 PROPOSED CHANGES

By letter dated March 27, 2009 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML090910146), as supplemented by letters dated May 11, 2009 (ADAMS Accession No. ML091340042) and July 31, 2009 (ADAMS Accession No. ML092180437) Honeywell Metropolis Works (MTW) (the licensee) submitted a request to amend its license to modify surface contamination limits for removable contamination in controlled areas as provided in its license renewal application dated May 27, 2005, (ADAMS Accession No. ML052310382) Section 3.2.6, "Surface Contamination." The staff's approval of the license renewal request was issued by letter dated May 11, 2007 (ADAMS Accession No. ML062140687).

The proposed license application amendment would increase the surface contamination levels for uranium and its daughter products to be consistent with the guidelines contained in Regulatory Guide (RG) 8.30, "Health Physics Survey in Uranium Recovery Facilities," Revision 1, dated May 2002. Specifically, the proposed limits for removable surface contamination levels would be 200 disintegrations per minute (dpm)/100 centimeter square (cm<sup>2</sup>) (alpha) for the Uncontrolled and Intermediate Areas, which is 20 percent of the limit in RG 8.30, and 75,000 dpm/100 cm<sup>2</sup> (alpha), which is 34 percent of the limit in RG 8.30, for the Controlled Areas of the facility.

## 2.0 REGULATORY REQUIREMENTS

Title 10 of the *Code of Federal Regulations* Part 20 (10 CFR 20), Subpart F, "Surveys and Monitoring," Section 1501, "General," requires adequate surveys to evaluate the concentrations or quantities of radioactive material and the potential radiological hazards. In its May 27, 2005, license renewal application, Honeywell MTW referenced RG 8.30. According to RG 8.30, surface contamination limits in the precipitation circuit, triuranium octoxide (U<sub>3</sub>O<sub>8</sub> or yellowcake) drying and barreling areas should be controlled to at least 10<sup>-3</sup> micro-curie per centimeter square (uCi/cm<sup>2</sup>), i.e., 220,000 dpm/100 cm<sup>2</sup>. RG 8.30 also states that its guidance may "be applied, in part, to portions of conversion facilities since some of the processes used in these facilities are similar to those in uranium recovery facilities." Honeywell MTW has historically controlled contamination in its controlled areas to those limits established in its license application. These limits are consistent with regulatory guidance established for enriched uranium processors and a specific guidance is not cited for contamination levels in the Honeywell MTW's license renewal application. While there is no regulatory limit established for the contamination levels, the potential ingestion and inhalation due to suspension of contamination may result in internal exposure which is governed by regulations set forth in 10 CFR 20.1201.

### 3.0 DISCUSSION

Honeywell MTW has recently changed its contamination survey methods to be more consistent with general nuclear industry practice for smear survey media and in the selection of areas to be smeared. The result of this change is that contamination has now been identified at levels that typically exceed the limits specified in the license renewal application. The increased contamination levels are attributed solely to the change in methods being employed for contamination surveys and are not an actual increase over the levels historically present at the Honeywell MTW site.

The staff has noted that the chemical forms of uranium and processes at Uranium Recovery Facilities and those present at the Honeywell MTW facility are not equivalent, thus application of RG 8.30 in its entirety may not be appropriate for the facility. However, exposures at Honeywell MTW have been trending downward for the past several years and the levels of surface contamination have been fairly stable. The smear methods now being utilized at Honeywell MTW are consistent with current industry practice which is more focused on controlling contamination near potential sources instead of only the routine traffic areas of the facility. In addition, administrative limits for contamination control, which are less than the limits provided in the renewed license, will be routinely reviewed by the facility's As Low As Reasonably Achievable (ALARA) Committee. The limits will also be adjusted as necessary to be continually challenging and acceptable in order to support facility operations and minimize personnel exposures.

With these considerations, Honeywell MTW has proposed increasing the allowable contamination levels in controlled areas from 5,000 dpm/100 cm<sup>2</sup> alpha to 75,000 dpm/100 cm<sup>2</sup> alpha, which is 34 percent of the recommendations in RG 8.30 (220,000 dpm/100 cm<sup>2</sup>). This is conservative for the relative radiological hazard for uranium tetrafluoride (UF<sub>4</sub>) at Honeywell MTW as compared to U<sub>3</sub>O<sub>8</sub> or yellowcake referenced in RG 8.30. The Derived Airborne Concentration (DAC) for UF<sub>4</sub> is 89 percent of the DAC for U<sub>3</sub>O<sub>8</sub>, given the relative solubility of these forms of uranium. In addition to increasing the controlled area contamination limit, Honeywell MTW stated that, any area found to exceed the specified action level for a surface contamination control shall be recorded in the facility's Corrective Action Program and be scheduled for decontamination. Honeywell MTW stated that it will increase survey frequencies of the controlled areas and the control rooms (which are uncontrolled areas), and commence decontamination within 24-hour notification of contamination in excess of the proposed limits. The staff has noted that the licensee's contamination limits for personnel, release of materials, uncontrolled and intermediate areas remain unchanged. Finally, the staff recognizes that the greatest radiological concern for increased contamination levels would be suspension of the material resulting in increased intake of airborne materials. Honeywell MTW has an airborne material monitoring program to identify and respond to airborne hazards.

### 4.0 FINDING

The staff has reviewed the proposed modification to the contamination control limits for controlled areas at Honeywell MTW, and finds that the increased limits, in conjunction with the revised smear methods, will not lead to contamination levels inconsistent with the past levels at the facility while the revised methods will generate data that will more accurately focus on decontamination and ALARA efforts. In addition, the staff finds that there is reasonable assurance that the proposed changes will not have a significant impact on public health and safety, security, or the protection of the environment and, therefore, are acceptable.

## 5.0 ENVIRONMENTAL REVIEW

Issuance of the requested amendment to Honeywell MTW's license application is subject to the categorical exclusion provided in 10 CFR 51.22(c)(11). No revisions or enhancements to the site's existing environmental monitoring program are required, and no additional environmental exposure will result from the proposed action. The staff noted that Honeywell MTW is not adding new equipment that could increase effluent releases offsite, and that no increases in occupational exposure or construction impacts will result from the proposed action. Therefore, in accordance with 10 CFR 51.22(c)(11), neither an environmental assessment nor an environmental impact statement is required for the proposed action.

## 6.0 CONCLUSION

Based on the review and evaluation of the information provided by Honeywell MTW in its license amendment request dated March 27, 2009, as supplemented by letters dated May 11, 2009, and July 31, 2009, the staff finds that the proposed changes contained in the license amendment request would continue to provide adequate protection of public health, safety, and safeguards. Therefore, the staff concludes that the proposed changes are acceptable and consistent with the requirements of 10 CFR 20.1501.

## 7.0 PRINCIPAL CONTRIBUTOR

Greg Chapman