



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

April 12, 2016

Mr. John Albritton, Plant Manager  
Honeywell Metropolis Works  
Honeywell International, Inc.  
P.O. Box 430  
2768 North US 45 Road  
Metropolis, IL 62960

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO CALENDAR  
YEAR 2015 DECOMMISSIONING COST ESTIMATE, HONEYWELL  
METROPOLIS WORKS COST ACTIVITY CODE NUMBER L34349

Dear Mr. Albritton:

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the January 6, 2016, submittal provided by Honeywell International, Inc. (Honeywell) regarding its Decommissioning Cost Estimate (DCE) as of calendar year 2015 for the required decommissioning activities at its Metropolis Works (MTW) facility (Agencywide Documents Access and Management System [ADAMS] Accession Number ML16008A088). The staff's review of the proposed January 6, 2016, DCE has identified that additional information is needed to complete our review.

As required by its Materials License Number SUB-526, License Condition 25, Honeywell must submit for NRC review an updated cost estimate for decommissioning at an interval not to exceed 3 years. Honeywell's January 6, 2016, DCE submittal updates its earlier DCE submittal provided on January 8, 2013 (ADAMS Accession Number ML13029A103), which was reviewed and approved by the NRC on July 23, 2013 (ADAMS Accession Number ML13191A901).

On April 8, 2016, the staff held a telephone call with Honeywell representatives to clarify the staff's draft Request for Additional Information (RAI) questions. These draft RAI questions were previously sent to Honeywell by e-mail on February 25, 2016. Honeywell's response to the RAI, specified in the enclosure, should be provided to the NRC no later than 10 business days from the date of this letter. This time frame has been agreed upon between the NRC staff and Honeywell MTW representatives.

In accordance with Title 10 of the *Code of Federal Regulations*, Section 2.390 of the NRC's "Agency Rules of Practice and Procedure," 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 NRC's ADAMS. ADAMS is accessible from the NRC Web site at:

<http://www.nrc.gov/reading-rm/adams.html>.

J. Albritton

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If you have any questions, please contact me at (404) 997-4730, or via e-mail at [Tilda.Liu@nrc.gov](mailto:Tilda.Liu@nrc.gov).

Sincerely,

**/RA/**

Tilda Liu, Senior Project Manager  
Enrichment and Conversion Branch  
Division of Fuel Cycle Safety, Safeguards,  
and Environmental Review  
Office of Nuclear Material Safety  
and Safeguards

Enclosure:  
Request for Additional Information

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

cc w/enclosure:  
Mark Wolf, Nuclear Compliance Director  
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Sean Patterson, Licensing Manager  
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**ADAMS Accession No: ML16102A116**

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<b>DATE</b>	4/11/2016	4/11/2016	4/12/2016

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**REQUEST FOR ADDITIONAL INFORMATION (RAI) REGARDING  
CALENDAR YEAR 2015 DECOMMISSIONING COST ESTIMATE  
HONEYWELL METROPOLIS WORKS  
(CAC NO. L34349)**

RAI 1

Update the basis for cost estimates in the decommissioning funding plan (DFP) (Title 10 of the *Code of Federal Regulations* (10 CFR) 40.36(d)(1)(ii); NUREG 1757, Volume 3, Rev. 1, Appendix A, Section A.3.1 and A.3.2).

The requirements in 10 CFR 40.36(d)(1)(ii) state that a DFP must contain “identification of and justification for using the key assumptions contained in the DCE.” In addition, NUREG-1757, Volume 3, Rev. 1, Appendix A, Section A.3.1 states that “a decommissioning estimate should contain a substantial level of detail, consistent with the guidance presented in this section, to allow the [U.S. Nuclear Regulatory Commission] to fully evaluate the adequacy of the estimate” and that “the labor estimates, material costs, and other factors of the cost estimate should have a clear and reasonable basis.”

In the 2015 DCE, the licensee relies on the “Site Reclamation Cost Estimate for Plant Located in Metropolis, Illinois, Revision 0, dated May 2006” (2006 DCE) as the basis for a significant share of the decommissioning costs (e.g., radiological waste disposal costs, waste transport costs, final survey equipment and material costs). These costs were originally estimated in 2006. Since that time, the licensee has inflated the costs in subsequent DCE updates using the cost escalation factor calculated by the licensee according to the methodology in NUREG-1307, Rev. 15, “Report on Waste Burial Charges: Changes in Decommissioning Costs at Low-Level Waste Burial Facilities.”

The underlying basis for the cost estimates (i.e., 2006 DCE) is 10 years old. As a result, the inflated cost estimates may no longer be representative of the current price of goods and services. NUREG-1757, Volume 3, Rev. 1, Appendix A, Section A.3.2 states that, “In general, cost estimates should be updated with the current prices of goods and services at least every 3 years or when the amounts or types of material at the facility change. Triennial adjustments should be made to account for inflation, for other changes in the prices of goods and services (e.g., disposal cost increases), for changes in facility conditions or operations, and for changes in expected decommissioning procedures.”

In order to ensure adequate funds are provided for decommissioning, the licensee is requested to provide a more current basis for the DCE.

RAI 2

Revise or justify labor unit costs (10 CFR 40.36(d)(1)(ii); NUREG-1757, Volume 3, Rev. 1, Appendix A, Section A.3.1.2.1)

Enclosure

The requirements in 10 CFR 40.36(d)(1)(ii) state that a DFP must contain “identification of and justification for using the key assumptions contained in the DCE.” In addition, NUREG-1757, Volume 3, Rev. 1, Appendix A, Section A.3.1.2.1, states that “the source for the labor costs ... should be described in sufficient detail to allow the NRC staff to confirm them.”

Although the 2015 DCE states that labor rates are escalated using the cost escalation factor calculated by the licensee and lists labor rates in Section 4.6, the DCE does not provide the basis for the labor costs. Based on the NRC staff’s past reviews of Honeywell’s DCE and request for additional information responses, we understand that in the licensee’s 2009 DCE labor costs were based on data from the RS Means Building Construction Cost Data and independent third-party contractor estimates. However, this basis is not identified or justified in the 2015 DCE.

In order to ensure adequate funds are provided for decommissioning, the licensee is requested to revise or justify the basis for labor costs in the DCE’s description of labor-related costs.

### RAI 3

Clarify the volume of contaminated soil (10 CFR 20.1501(a); 10 CFR 40.36(d)(1)(i)(C); NUREG-1757, Volume 3, Rev. 1, Appendix A, Section A.3.1.1).

The provisions in 10 CFR 20.1501(a) require licensees to perform surveys of the licensed facility, including the subsurface, to evaluate “(i) the magnitude and extent of radiation levels; and (ii) concentrations or quantities of residual radioactivity; and (iii) the potential radiological hazards of the radiation levels and residual radioactivity detected.” The provisions of 10 CFR 40.36(d)(1)(i)(C) require that the DCE be in an amount reflecting “[t]he volume of onsite subsurface material containing residual radioactivity that will require remediation.” NUREG-1757, Volume 3, Rev. 1, Appendix A, Section A.3.1.1 states that the facility description, which provides the basic context for the DCE, should contain “an estimate of the volume of contaminated material, including that in the subsurface, containing residual radioactivity that will require remediation to meet the criteria for license termination.”

In the 2015 DCE, the licensee considered subsurface contamination, relying on a site characterization conducted in 2009, which estimated the volume of contaminated soil in the plant and non-plant surface and subsurface soils. Section 4.0 of the DCE states that “there has been no additional information collected that would result in a net change in the volumes of impacted surface and subsurface soil material since 2012.” However, as shown in Table 1 below, when compared to the 2012 DCE, the 2015 DCE presents lower volumes of impacted soil in the non-plant area and areas adjacent to subsurface piping.

**Table 1. Estimated volumes of impacted surface and subsurface soil at the Honeywell facility**

Location of impacted soil	Volume of impacted soil (ft <sup>3</sup> )*		
	2012 DCE	2015 DCE	Δ in Volume (2015 DCE – 2012 DCE)
Plant areas	718,692 ft <sup>3</sup>	718,692 ft <sup>3</sup>	0 ft <sup>3</sup>
Non-plant areas	153,897 ft <sup>3</sup>	110,194 ft <sup>3</sup>	- 43,703 ft <sup>3</sup>
Areas adjacent to subsurface piping	156,675 ft <sup>3</sup> **	129,622 ft <sup>3</sup>	- 27,053 ft <sup>3</sup>
<b>Total volume of impacted soil</b>	<b>1,029,264 ft<sup>3</sup></b>	<b>958,508 ft<sup>3</sup></b>	<b>- 70,756 ft<sup>3</sup></b>

\* Source: See Section 3.4.4 of the 2012 DCE and 2015 DCE for volumes of impacted soil in plant areas and non-plant areas. Section 3.4.4 of the 2015 DCE also identifies the volume of impacted soil in areas adjacent to subsurface piping.

\*\* For the 2012 DCE, the licensee provided an estimate for the volume of impacted soil adjacent to subsurface piping in RAI responses dated May 30, 2013.

In order to ensure adequate funds are provided for decommissioning, the licensee is requested to provide the basis for the change in volumes of impacted soil in non-plant areas and areas adjacent to subsurface piping decreased.

RAI 4

Section 4.0 of the 2015 DCE states that “this update did not modify the volumes associated with buildings and structures (Table A-1) from the 2012 Report.” However, as stated in Section 3.5 of the DCE, the licensee remediated a portion of the roof above the Laundry Area. Tables 4-5 and A-1 show *EnergySolutions* Direct Bury Waste Volume is 0 ft<sup>3</sup> in the 2015 DCE, compared to 500 ft<sup>3</sup> in the 2012 DCE. The licensee is requested to justify this variance or modify its statement in Section 4.0 to reflect the changes to administrative areas which resulted in a lower volume of waste.

RAI 5

The licensee is requested to identify its plan for inventory onsite and how these costs are covered. For example, how will the material onsite which is not considered waste be safely packaged, loaded and transported offsite to another licensee which can accept the material, and how these costs are covered.

10 CFR 40.36(d)(1)(i)(A) requires that a DFP must contain a DCE for decommissioning, in an amount reflecting the cost of an independent contractor to perform all decommissioning activities.

10 CFR 40.36 (d)(1)(ii) requires that a DFP must identify and justify the key assumptions contained in the DCE.

10 CFR 40.36(d)(2)(v) requires that licensees specifically consider the effect of changes in authorized possession limits on decommissioning costs.

Page 4-11 of NUREG-1757, Vol. 3, Rev. 1 states that the cost estimate should not take credit for any salvage value that might be realized from the sale of potential assets during or after decommissioning or reduced taxes that might result from payment of decommissioning costs or site control and maintenance costs. Page A-22 states that the site-specific cost estimate must assume that the decommissioning work should represent the licensee's best approximation of all direct and indirect costs of decommissioning its facilities under routine facility conditions. The assumption that routine facility conditions will prevail at the time of decommissioning implies that the cost estimate need not consider a worst-case decommissioning scenario. Inventories of materials and wastes at the time of decommissioning will be in amounts that are consistent with routine facility conditions.

NUREG-1757, Volume 3, Rev. 1, Appendix A, Section A.3.1, calls for the submission of a cost estimate to include a substantial level of detail to allow NRC to fully evaluate the adequacy of the estimate and determine whether it was developed in accordance with NRC regulations and guidance.