Summary of October 21, 2010 Telecon w/ NRC

On Thursday, October 21, 2010, Honeywell and the NRC Staff participated in a telephone conference to discuss Honeywell's plan to submit a license amendment request that would authorize decommissioning of Ponds B, C, D, and E at the Metropolis Works, followed by a partial site release. The purpose of the call was to provide the NRC with preliminary information related to several topics raised by the NRC in an e-mail to Honeywell, dated October 20, 2010.

During the telephone conference, Honeywell explained that its license amendment application was currently undergoing internal reviews and that information provided to the NRC during the call was subject to change. Honeywell also noted that it would address the topics raised by the NRC in its license amendment application. A brief summary of the information provided by Honeywell during the telephone call for each of the topics identified by the NRC is provided below.

1. License Release: At NRC-regulated sites, engineered covers with unrestricted release from an NRC license are uncommon. Only two sites (SCA Hartley site in Michigan and Cabot site in Reading, Pennsylvania) have been released for unrestricted use using engineered barriers and both sites had unique characteristics. Typically, these sites have a restricted release. What are some of the unique characteristics associated with Honeywell MTW that provide for unrestricted versus restricted release?

The unique features of the Honeywell site include low radionuclide concentrations and the presence of the radionuclides within a controlled location (*i.e.*, the existing surface impoundments permitted under RCRA). The proposed closure conforms to NRC guidance in NUREG-1757 for use of engineering barriers in conjunction with unrestricted release from a NRC license. The ponds are located upon 15 feet of clay and 45-60 feet above the closest ground water.

2. RCRA: IEPA RCRA closure restrictions appear to be similar to deed restrictions by alternate nomenclature. For unrestricted release, these restrictions are not recognized by the NRC. Does Honeywell have any additional clarification on this issue?

Because Honeywell is proposing an unrestricted release, durable and enforceable institutional controls are not required. Instead, Honeywell is referencing the deed/land use restrictions simply to demonstrate that our calculations are even more conservative than they would be without such restrictions.

3. RESRAD: It would appear that the analysis may need to evaluate a broader range of exposure pathways; can Honeywell explain the rationale behind why several of the exposure pathways are turned off? What was the source term used in the dose calculations and what is the basis for that value? Are other radionuclides or uranium decay products present and were these included in the RESRAD calculation? Why is the full residential farmer not the most appropriate critical group for an unrestricted release?

Enclosure 2

The exposure pathways include the industrial worker plus groundwater. The source term used is the average as-is concentration of uranium and other radionuclides found in the pond CaF_2 materials by the characterization study. The source terms size and density were adjusted to account for the volumetric and density changes due to the pozzolanic additive. Other radionuclides in the decay chain of uranium were found in minor amounts in the isotopic analysis of the CaF_2. These radionuclides were included in the modeling.

With respect to use of the property by a residential farmer, industrial use of the property is the reasonable and likely land use scenario. The site is currently, and is expected to remain for the foreseeable future, an industrial facility. It is in an area that is conducive to long-term industrial use, since it is close to other industrial facilities, rail transport and transmission systems. In addition, the deed/land use restrictions required by the IEPA will expressly ban use as either a residence or a farm. Nevertheless, as a means of demonstrating the conservatism in the proposed closure approach, Honeywell has modeled the resident farmer scenario, and the modeled doses are still within NRC limits.

4. Water: What are some additional details about site characterization such as proximity to ground water or the river? Is there any current ground water monitoring data near the ponds? Will Honeywell need a berm capable of protecting the cap from the river (meandering) and/or probable maximum flood (PMF)?

There are existing groundwater monitoring data at the property, including near the ponds (as required by the RCRA permit). Based on data obtained from previous site investigations and the RCRA groundwater monitoring network, the groundwater flow characteristics beneath the facility have been adequately characterized.

Honeywell does not anticipate the need for a berm capable of protecting the cover system from the Ohio River. The ponds are located approximately 1/3 of a mile from the Ohio River on a bluff that sits well above the river elevation and flood plain. In addition, the cover system side slopes will be protected with riprap to provide additional erosion protection.

5. Liners: What credit is Honeywell taking for the liners in the ponds? How long are these liners expected to function as designed? Has the dose modeling considered leachate generation at the bottom of the solidified (pozzolanic) material due to ground water interaction?

The existing pond liner system includes both an EPDM liner and 15 feet of clay. The EPDM liner was excluded from the site conceptual model used for RESRAD, however, so Honeywell is not taking credit for the EPDM liner in the dose assessment. Honeywell is referencing the EPDM liner, like the deed/land use restrictions, simply to demonstrate that our calculations are even more conservative than they otherwise would be.

With respect to ground water interaction with the bottom of the solidified material, Honeywell does not expect any interaction because the depth to the closest ground water is approximately 45-60 feet below ground surface.

6. Solidification: Are there other sites that have used pozzolanic material such as Portland cement to immobilize radionuclides? If known, what is their current state with respect to stability, erosion, etc?

The primary objective of the pozzolanic additive is to provide increased strength and stability to the materials in the ponds, not to immobilize radionuclides. Pozzolanic stabilizers are commonly used to increase bearing capacity of materials for closures involving a variety of materials.

7. Cap: Will a radon barrier and freeze/frost barrier also be needed in addition to the materials proposed as the cap? The cap is required to meet NRC standards rather than the proposed surface water and erosion control features based on IEPA and EPA design guidance for landfills and surface impoundments.

The proposed cover system design will act as an effective radon and frost/freeze barrier given the thickness of the cover system and the erosion rate in the area. Honeywell reviewed NRC cover system design guidance and incorporated that guidance into the cover system design as appropriate (*e.g.*, erosion protection, slope stability and settlement of the cover system, berms, and foundation soils during static and seismic loading).