

August 9, 2012

Ms. Phyllis Anderson, Acting Director  
Division of Assessment and Remediation  
Office of Superfund Remediation  
and Technology Innovation  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Mail Code: 5204P  
Washington, DC 20460

SUBJECT: MEMORANDUM OF UNDERSTANDING CONSULTATION ON THE  
DECOMMISSIONING OF PONDS B, C, D, AND E, HONEYWELL  
INTERNATIONAL METROPOLIS WORKS, METROPOLIS, ILLINOIS

Dear Ms. Anderson:

This letter is intended to inform you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken, and intends to take, for the Honeywell International Metropolis Works (MTW) site located in Metropolis, Illinois.

On October 9, 2002, the NRC and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." Under the MOU, EPA agreed to continue its Comprehensive Environmental Response, Compensation, and Liability Act's (CERCLA) deferral policy of not listing sites on the National Priorities List that are subject to NRC licensing authority. The MOU provides that, unless an NRC-licensed site exceeds any of three trigger criteria contained in the MOU, EPA agrees to a policy of deferral to NRC's decision making on decommissioning without the need for consultation.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) prior to NRC approval of the license termination plan or decommissioning plan (DP), which NRC terms Level 1 consultation; and (2) following completion of the final status survey, which NRC terms Level 2 consultation.

On November 22, 2010 Honeywell International, an NRC licensee, submitted a License Amendment Request Report, entitled "U.S. NRC License Number SUB-526, Closure of Retention Ponds B, C, D, and E" (Agencywide Document Access and Management System [ADAMS] Accession Nos. ML103420434, ML110040941, ML103400459, ML110040252, ML103400517, ML103400517, ML103400458) to the NRC. These documents serve as the DP for the release of four retention ponds at Honeywell's Metropolis, Illinois, facility for unrestricted use.

Concurrent with the decommissioning action under NRC regulations, the MTW facility is also engaged in a Resource Conservation and Recovery Act (RCRA) remedial action in accordance with their RCRA Part B Permit No. B-65R. The RCRA permit requires that Honeywell close the

ponds by 2020. As part of the closure process, MTW has submitted an application to modify MTW's RCRA Permit to close the ponds to the Illinois Environmental Protection Agency (IEPA). The IEPA is evaluating the application in collaboration with the EPA, Region 5.

Because the nature of the final solidified pond material is not within the scope of the MOU (i.e., it is neither soil nor water), NRC has concluded that consultation with EPA is not required under the terms of the MOU. However, in the interest of openness, the NRC believes it is appropriate to inform EPA of the action the licensee is proposing.

#### The Honeywell Metropolis Works Ponds B, C, D, and E

Under NRC License SUB-526, the MTW plant converts uranium ore concentrates to uranium hexafluoride ( $UF_6$ ) by the "fluoride volatility process." The  $UF_6$  product is sold as the feed material for uranium enrichment plants. The decommissioning pertains to an area of the MTW site known as the calcium fluoride ( $CaF_2$ ) Pond Area, which includes four surface impoundments designated Ponds B, C, D, and E. Pond A was closed in 2001 and  $CaF_2$  materials were removed from the site.

Ponds B, C, D, and E were constructed from 1974 through 1979 and currently store  $CaF_2$  materials which contain trace amounts of natural radioactive isotopes including, but not limited to, uranium. This material was generated prior to 1982 when MTW used a fluoride removal process that involved use of calcium hydroxide to precipitate calcium fluoride in the ponds. The installation of a  $CaF_2$  recovery system in 1982 curtailed the use of the ponds for  $CaF_2$  precipitation. Currently, no material is discharged to Ponds B, C, and E; and Pond D only receives flow from MTW's National Pollutant Discharge Elimination System (NPDES)-permitted wastewater treatment system prior to discharge at their NPDES permitted Outfall 002.

MTW is required by its RCRA Permit to close Ponds B, C, D, and E by 2020. As part of the closure process, MTW has submitted an application to the IEPA to modify MTW's RCRA Permit to close the ponds with the pond contents remaining in place. For this application, MTW proposes using in-situ sediment stabilization incorporating a pozzolanic cement material, construction of an engineered cover system, long-term monitoring and maintenance, and institutional controls. The solidified pond material is intended to serve as the support for the cover. The cover is a multi-layer design which includes layers of rock and soil, and synthetic materials. MTW has also proposed construction of an erosion control system intended to protect pond structures and associated drainage features from deterioration. Honeywell is also seeking to decommission the four ponds under NRC regulations, leading to the release of the ponds, for unrestricted use, from the MTW NRC license. The remainder of the facility would continue operating under the same license.

#### Site Contamination

The primary radiological contaminants encountered during the site characterization activities for the Honeywell MTW  $CaF_2$  Pond Area are natural uranium and its decay products. These are the result of precipitation activities conducted in the ponds prior to 1982. The average measured uranium concentrations in the pond sediments are contained in Honeywell's license amendment request and are provided in the enclosure. Based on the data provided, the average uranium-238 concentrations in the pond material exceed the MOU soil concentration trigger values for the industrial/commercial scenario in Ponds C, D, and E. The average total

uranium concentration in Pond D also exceeds the MOU soil concentration trigger value. Honeywell plans to stabilize the pond sediments in place, so the residual radioactivity will remain at completion of the decommissioning of these ponds.

### NRC Actions

MTW's proposal to NRC is for release of the Ponds without restrictions on future site use. In order to release the site without restrictions on future site use, the licensee must meet the NRC dose criteria without relying on institutional controls; long-term monitoring; or active-engineered barriers to limit the potential dose to members of the public. Although MTW has included active barriers (i.e., those requiring monitoring and maintenance to ensure their long-term integrity) in its DP, only passive barriers for limiting dose can be considered by NRC in evaluating the dose from residual radioactive material at the site. To meet the requirements for unrestricted use, MTW takes credit for an erosion control system because it would be designed such that it would not rely on long-term monitoring and maintenance (i.e., a passive barrier). MTW's proposal to NRC does not take credit for the engineered cover system, solidified pond material, institutional controls, or monitoring activities that MTW also included in its DP. These components are intended for the IEPA proposal.

The NRC staff's use of the Industrial/Commercial Soil Concentration trigger values is based on its review of Honeywell's proposed DP and their anticipated continued use of the site as an industrial facility for the foreseeable future. If, upon further review, NRC staff determines that the residential scenario is a more appropriate scenario, then the EPA will be notified. It should be noted that a comparison of Honeywell's average soil concentrations with the Residential Soil Concentration Soil trigger values will result in additional radionuclides exceeding the MOU trigger values.

However, regardless of the final use of the site, NRC will ensure that doses to the average member of the critical group will be in compliance with NRC's criteria in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20 prior to approving this license amendment request. Subpart E provides an all-pathways dose criteria of no more than 0.25 millisieverts per year (25 millirem per year) and that are as low as reasonably achievable to an average member of the critical group. The dose criteria in Part 20, Subpart E, are fully protective of the public health and safety; and were the result of a comprehensive rulemaking, including an accompanying Generic Environmental Impact Statement.

### Next Steps

Although we have not reached a decision on Honeywell's decommissioning request, we will keep EPA informed of this licensing action relative to the Honeywell license. If you have any questions, the NRC staff is available to meet with you and representatives of your staff to discuss our technical findings in greater detail. We believe such a meeting can provide you with additional details concerning the decommissioning of the Honeywell Metropolis Works Ponds B, C, D, and E; and answer any questions you or your staff may have. It is the NRC's objective to complete the MTW Ponds decommissioning licensing action, including this consultation process, by fall 2012.

In accordance with 10 CFR 2.390 of NRC's "Rules 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 System component of NRC's document system ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov-rm/adams/html>.

If you have any questions concerning the above, please contact me at (301) 415-7295.

Sincerely,

**/RA/**

Larry Camper, Director  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

Docket No. 04003392

License No. SUB-526

Enclosure:  
Average Soil Concentrations

cc: Stuart Walker  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Mail Code: 5204P  
Washington, DC 20460

Paul Michalak, NRC

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Paul Michalak, NRC

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