

## NRC Evaluation of Responses to RAIs for Volume 2 of Surface Impoundment Decommissioning Plan for Honeywell Facility.

July 26, 2012

### RAI 1:

The licensee confirmed that the Soil Unit 4 and a new Soil Unit 3a are “partially liquefiable.” The licensee stated that based on their analyses slopes would remain stable after seismic loading ends.

The staff will need to review the revised PMP calculations to determine if the slopes will be affected and if the seismic analyses performed for the site need to be re-evaluated. The proposed berm slopes are 3H:1V instead of the 5H:1V recommended in the regulations. So, strong technical bases need to be provided to approve the 3H:1V slope.

### RAI 2:

2.1) The staff needs to review the new PMP calculations in order to make a safety determination on the erosion protection system design. Please provide the timeline for submitting the PMP calculations and the affect of the PMP calculations and results on the design.

2.2) The NRC also needs to review the Tc calculation, the results of which are used in the PMP calculation. Refer to comment in 2.1 above.

### RAI 3:

3.1) Honeywell will need to re-evaluate its Safety Factor Method calculations which yield the D50 size, since it will be affected by the new PMP results.

3.2) Riprap gradation calculations and results are needed now as part of the design, rather than “before construction” as proposed in the response. From NUREG-1620 Page 2-25 (4): The particle size gradation of the disposal cell bedding layer and the rock layer are established to ensure stability against particle migration during the period of regulatory interest (NRC, 1982).

### RAI 4:

4.1 and 4.2) Provide the technical analysis (such as, calculated flow velocities, flow, etc...) that supports the following statement in the response: “Low flow velocities are expected to ensure that the stormwater features will remain intact and functional. Stormwater that overtops the perimeter ditches will run overland (away from the ponds) to lower elevations and ultimately to the Ohio River.”

4.3) Was a sediment accumulation analysis performed at the site, based on different storm events and flow velocity (flush of sediments?) to support Honeywell's conclusions?. Will there be sediment accumulation on top of the rock (after all the voids are filled)?

4.4) It appears that V-shape slopes may be too steep and sediment accumulation may occur. The licensee should demonstrate that it has accounted for the proper slopes in its design. Please refer to comments in response to 4.3.

4.5) Provide the technical basis/analysis for selecting 4%? Will rock be required? Refer to Section 2.2.2 in Appendix A of NUREG-1623 for guidance on how to design vegetated soil covers.

Was a wind erosion analysis performed? The Chepil Equation mentioned in NUREG-1623, Page 18, is an approved method.

4.6) What is the drainage area of the Ohio River assumed for the Honeywell site? How were the 4,000,000 cfs and PMF elevation of 365ft taken into consideration in your design? The licensee can follow the same procedure used for the PGDP facility (RG1.59) and apply it at the Honeywell site to calculate the PMF.

4.7) Need additional details on the riprap apron for the discharge points. This will be affected by the PMP new calculation.