

From: Paul Michalak
To: John McCarthy
Date: 08/02/2007 9:03:36 AM
Subject: FYI: SR-HUP flow limit

John,

A little while ago you asked me about the origin/basis of PRI's flow production limit in Source Material License SUA-1548 for Smith Ranch - Highland Uranium Project (SR-HUP). Currently, PRI's SR-HUP production flow limit is 20,000 gpm exclusive of restoration, with a U3O8 (yellowcake) limit of 5.5m lbs/year.

Based on my research, the present limit appears to be the sum (rounded up) of the original Smith Ranch SUA-1548 limit (12,000 gpm, 3.5m lbs/year) and Highland SUA-1511 limit (7,500 gpm exclusive of restoration, 1.897m lbs/year).

With respect to the original Smith Ranch SUA-1548 limit, it looks like the limit has a disposal component and a dose component. The 12,000 gpm value is referenced in several places in the NRC's April 2001 Environmental Assessment for the Renewal of Source Material License SUA-1548 (attached). Of particular interest is Section 3.5.2 - Wastes which states that "for an assumed total production rate of 12,000 gpm, bleed from eluant, precipitation, and water softener will be discharged to evaporation ponds or the approved disposal wells at 290 gpm (88.7 million gallons per year)." Looks like production effluent/wastewater and disposal capacity were considered during the environmental review for the 2001 re-licensing of Smith Ranch.

The other place I found reference to 12,000 gpm is in PRI's SR-HUP May 6, 2003 application. Table 4-1 "Calculations of Cumulative Average Annual Source Terms for the Smith Ranch Project" has three subsections related to the Smith Ranch CPP, SR-1, and SR-2. The maximum cumulative flow is 12,000 gpm for 2004 and 2005 (remember, this was one of my comments concerning dated assumptions in dose assessments prior to the recent MILDOS work).

I haven't found the basis for the Highland flow production limit (7,500 gpm exclusive of restoration); however, I think it's a reasonable assumption that this limit has a basis similar to the Smith Ranch flow limit.

If PRI wants to increase the SR-HUP flow limit, a license amendment will be required. Some issues that should be addressed in the proposed amendment include:

- How does increasing the flow change the current operation? Change/modification in plant design? More/bigger tanks/equipment or is it simply pumping more lixiviant through the existing system and running your existing driers longer? In other words, what safety and environmental impact (if any) does the change have on your operation and what measures are PRI taking to mitigate this impact?
- Does PRI have sufficient wastewater disposal capacity for a larger flow?
- Does increasing the flow increase the estimated radiological dose to the nearest resident or member of the public above the standard in 10 CFR 20.1301 (i.e., 100 mrem/yr)?
- How will PRI's radiological safety program address monitoring issues related to increased flow/and corresponding production (e.g., more drier workers with corresponding potential increase in radiological dose?).

If and when you decide to increase your SR-HUP flow limit, it may pay to have a conference call to discuss further.

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