

Post Docket #
70-3085

From: Amir Kouhestani
To: Bill Lenart; Frothingham, David G LRB
Date: 6/6/05 11:36AM
Subject: Re: ACTION: USACE Draft-Final Remedial Investigation Report (March 2005)

-6/6/05

William Lenart and David Frothingham:

In response to your 25 March 05 request, Subject as Above, and the provisions of the Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission [NRC] and the U. S. Army Corps of Engineers [USACE] for Coordination of Cleanup & Decommissioning of the Formerly Utilized Site Remedial Action Program (FUSRAP) Sites With NRC-Licensed Facilities, I submit the attached NRC staff comments (dated 26 May 05) for USACE's consideration. The NRC staff comments in the attached covers staff's review of the groundwater portion of the draft-final Remedial Investigation Report (RI). Also, on 26 May 05, the NRC staff by a separate email provided you with our review comments about the USACE's proposed site dose model for the SLDA presented in the same draft-final RI report. This note along with our other 26 May 05 comments on the site dose model completes NRC staff's review of the USACE's draft-final RI Report for the SLDA. This note and its attachment will be posted against the NRC Docket for the SLDA (docket # 70-3085).

If you have any questions about our comments or need additional information please feel free to contact me at 301/415-0023.

vr,
Amir Kouhestani
NRC SLDA Project Manager
Division of Waste Management & Environmental Protection

CC: Barrett, Jim R.; Harper, Sam (PADEP); Maiers, Bob (PADEP); Shearer, Dwight

Mail Envelope Properties (42A46D6C.4C3 : 2 : 21118)

Subject: Re: ACTION: USACE Draft-Final Remedial Investigation Report
(March 2005)
Creation Date: 6/6/05 11:36AM
From: Amir Kouhestani
Created By: AAK@nrc.gov

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| Files | Size | Date & Time |
| MESSAGE | 2039 | 06/06/05 11:36AM |
| NRC staff rvw - SLDA - GW.06.01.05.wpd | 9330 | 06/06/05 08:53AM |

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May 26, 2005

**SUBJECT: ENVIRONMENTAL AND PERFORMANCE EVALUATION OF THE U.S. ARMY
CORPS OF ENGINEER'S GROUNDWATER ASSESSMENT OF THE
SHALLOW LAND DISPOSAL AREA**

Summary:

The U.S. Nuclear Regulatory Commission (NRC) Division of Waste Management & Environmental Protection staff (NRC staff) has concluded that the USACE's hydrogeologic assessment of the SLDA is adequate; however, additional work is recommended to clarify the site conceptual hydrogeologic model and groundwater flow rates within the water bearing and associated units.

NRC Staff Evaluation of the USACE's Hydrogeologic Assessment of the SLDA:

The NRC staff has concluded that the USACE's hydrogeologic assessment of the SLDA is adequate. The density of monitoring wells for all five water bearing units is appropriate, and sampling of the monitoring wells, surface water sites, and background sites was adequate when both the historical and RI databases are used. Monitoring data are available to evaluate trends over time and over wet and dry climatic periods.

The NRC staff agrees with USACE's conceptual model and that the potential radionuclide transport within the water bearing and associated units at the SLDA is limited. This conclusion is supported by the limited extent of trench-derived radionuclide contamination in the groundwater of the Overburden and First Shallow Bedrock water bearing units and the surface water of Dry Run.

However, NRC staff believes that quantifying the vertical groundwater flow rates would enhance the understanding of the groundwater system. The USACE has limited information on the vertical groundwater flow rates between the water bearing and associated units. Thus, it can not predict the likelihood that groundwater in the Overburden will reach the Upper Freeport Coal. Also, information on vertical groundwater flow rates can be used in evaluating the potential impact of preferential groundwater flow in the SLDA.

Therefore, developing better estimates of vertical groundwater flow rates between the Overburden and lower water bearing units will help to clarify the conceptual model. The NRC staff recommends that USACE perform groundwater tracer tests to evaluate the vertical groundwater flow rates within the water bearing and associated units from the Overburden to the Deep Bedrock. Tracer tests technology for groundwater systems has developed significantly over the past few years. It includes both natural (e.g., O^{18} , S^{35}) and artificial (e.g., organic dyes, chloride, bromide) tracers.