

## TELECONFERENCE SUMMARY

**Date:** February 9, 2006, 0800 MDT

**Subject:** Teleconference Minutes Re: Discussion of HELP modeling results pursuant to resolution of comments provided by NMED in the "January 4, 2006 Notice of Disapproval, Remedy Design Work Plan for the Las Alamos Site Office TA-73 Airport Landfill, Revision 1, Los Alamos National Laboratory, NM0890010515, HWB-LANL-05-015."

**Attendees and contact information:**

DOE-LASO	NMED	North Wind, Inc.	Weston Solutions, Inc.
Robert Enz (505-667-7640; renz@doeal.gov)	Mohammed Nur (MNur@TechLawInc.com)	John Keck (208-557-7831; jkeck@northwind-inc.com)	Andrew Harpur (610-701-5293; Andrew.Harpur@WestonSolutions.com)
		Doug Jorgensen (208-557-7864; djorgensen@northwind-inc.com)	Kelly Duddy (312-424-3313; Kelly.Duddy@WestonSolutions.com)

**Summary:** A conference call was held with the attendee's listed, to discuss the status of resolution of the NMED comment on the LANL TA-73 Remedy Design Work Plan (RDWP), stated as:

**General Comment #1:** "In order to demonstrate that the alternative cover meets or exceeds the Subtitle C required performance criteria, modeling (such as the Hydrologic Evaluation of Landfill Performance [HELP] Model) will need to be conducted, especially for the Debris Disposal Area (DDA) and the riprap armored portion of the landfill. The modeling could be conducted with data obtained from testing the materials to be used in the covers and literature data.

Mr. Enz introduced the attendees and asked Mr. Keck to introduce the teleconference topic. Mr. Keck read the portion of referenced General Comment #1 and proceeded to describe the results of modeling performed to demonstrate equivalent infiltration control for the MatCon cover area of the main landfill. Mr. Keck stated that the issue of the DDA cover had been resolved and that no modeling was required. Mr. Keck described the Subtitle C and MatCon cover configurations that were modeled, and the resulting infiltration through each. Mr. Keck described the difficulties in applying the HELP model to impermeable surfaces, which the model does not allow to be used for top layers, and qualified the differences in calculated infiltration (about 0.02 inches/year more infiltration through the MatCon cover than through a RCRA Subtitle C MTG cover) as insignificant in the context of the average annual precipitation, which was 24 inches for the weather data set used. Ms. Duddy further described the constraints the model imposes on such configurations and explained that a 0.01 inch sand layer was added as a top layer to allow the model to run.

Mr. Keck then described revisions to the design that were modeled to try to reduce the calculated infiltration. An FML was added under the MatCon, with an overlying 6 inch sand layer to protect



the FML. This configuration allowed less infiltration than the RCRA cover. However Mr. Keck noted that this would either raise the overall landfill profile by 6 inches, with an increase in slopes; or would necessitate sending about 6500 cy of waste off-site. He noted that neither of these outcomes would likely be acceptable to the stakeholders. Mr. Keck concluded that based on the small difference in infiltration observed, and on the limitations of the model, and on the EPA Site program evaluation of MatCon that found functional equivalence of MatCon to RCRA Subtitle C MTG covers with respect to infiltration; and on the planned construction and testing of test pads prior to full-scale implementation, that addition of an FML and sand layer under the MatCon was not merited.

Mr. Nur questioned why a 2% slope was used for the RCRA cover instead of the MTG minimum slope of 3%. Mr. Keck stated that a 3% slope would not be acceptable to the stakeholders and was therefore not a valid comparison. Mr. Nur responded that the modeling needed to compare the RCRA cover as described in the guidance and that slopes less than 3% were not consistent with the guidance. Mr. Harpur and Mr. Keck agreed that increasing the RCRA cover slope would likely further increase runoff and reduce infiltration. During the discussion Ms. Duddy revised the RCRA cover slope to 3% and re-ran the model. Results showed essentially no difference in average annual infiltration. Mr. Nur concurred that if description of the EPA Site program evaluation, the test pad construction and testing, and O&M were added to the RDWP, that in his opinion this would be adequate justification of Subtitle C MTG equivalence. Mr. Keck stated that the requested information would be added to the Design Basis section of the RDWP.

Mr. Keck asked if there were further questions on the equivalence of the MatCon cover. There were none and he proceeded to describe modeling results for the north and east slopes. Mr. Keck explained that the model allows for cover configurations as described in the RDWP (rock armor over soil) and therefore there was less uncertainty in the significance of the model results. Mr. Keck also explained that RCRA MTG allows for use of rock armor on steep slopes and that the RCRA cover was modeled this way. The resulting modeled differences in infiltration were larger, about 0.14 inches more infiltration per year on average for the RDWP design.

Mr. Keck described two possible revised designs for the 25% sloped areas that were modeled to try to match RCRA cover performance. The first included a 12-inch sand drainage layer under the rock armor, over an FML, over the 18-inches of  $1E-05$  cm/sec soil. The second substituted a drainage net for the sand layer. Model results for both showed essentially zero infiltration, which is less than reported for the RCRA cover on an equivalent slope. Mr. Keck noted that a permeability of  $1.9E-06$  cm/sec was used in the HELP modeling for the infiltration layer and Ms. Duddy said this would be revised to  $1E-05$  cm/sec and the model re-run.

The discussion then focused on the effects on stakeholder requirements and constructability of both design options. Addition of 12-inches of sand could affect final cover elevations, or alternatively require export of waste off-site, while addition drainage net and an FML would not.

Constructability of the design options was discussed. Mr. Keck noted Mr. Kevin Redmond's (North Wind, Inc. construction manager) expressed concerns about placing rip-rap on an FML, and the possibility of alternative facing on the slopes was discussed. Mr. Harpur stated he would work with North Wind, Inc. to evaluate and select facing that could be placed without damaging the FML.

Mr. Keck noted that gas collection under the FML on the slopes would have to be added. Mr. Harpur stated that this could be done and he would add it to the design.

Mr. Enz asked if anyone had any remaining questions and there were none. Mr. Keck noted that the current working schedule, which calls for submittal of revisions as errata pages to NMED by February 20, would likely have to be extended. Mr. Keck proposed that a week be added to the schedule to allow for design revisions and Mr. Harpur concurred that this seemed feasible. Mr. Keck identified February 27 or 28 as a proposed submittal date for the design revisions to NMED. No objection was raised. Mr. Enz asked if any questions or comments remained. There were none and the meeting was adjourned.

**Action Items and Schedule:**

1. Kelly Duddy-revise slope on RCRA Subtitle C cover to 3% and re-run the model (complete by 02/14/06)
2. Kelly Duddy-revise permeability of Layer 4 (18-in infiltration layer) on the east slope to 1E-05 cm/sec and re-run the model. (complete by 02/14/06)
3. Andrew Harpur and Kevin Redmond-discuss and concur on alternative facing for north and east slopes that can be placed over drainage net/FML while meeting functional requirements to minimize erosion, promote run-off and be durable. (complete by 02/15/06)
4. Andrew Harpur-revise design drawings and specs for submittal to NMED by February 28, to include revised east slope design including gas collection. (complete by 02/23/06)
5. John Keck-revise RDWP Section 2.2 "Basis for Revised Design" to include discussion of modeling results, test pads, O&M plan for the final cover, and EPA Site Program results to substantiate RCRA Subtitle C MTG equivalence of the design. (complete by 02/17/06)

**References:**

January 4, 2006 "Notice of Disapproval, Remedy Design Work Plan for the Los Alamos Site Office TA-73 Airport Landfill, Revision 1 Los Alamos National Laboratory, NM0890010515, HWB-LANL-05-015

June 2005, "Remedy Design Work Plan for the Los Alamos Site Office TA-73 Airport Landfill", NW-ID-2004-031, Revision 1.