TA-21 SWMU 21-011(k)

TA21

MAY 7, 2002 Sent to J. HOPKINS via e-mail (M)

Informal Comments for *"Voluntary Corrective Measures (VCM) Plan for Solid Waste Management Unit (SWMU) 21-011(k), at Technical Area (TA) 21."* Submitted to HWB on April 22, 2002.

General Comments

1. Numerous typographical errors, mismatched font types, and various other formatting errors are found throughout the document. Documents should be thoroughly checked, including spell checked, prior to submittal to NMED for review.

2. The maps submitted in the report are of poor quality. Many maps display data using a colorimetric scale. Since the maps were not submitted in color, it is difficult for the reader to determine contaminant distribution. Maps displaying data using a color scale should be submitted in color. In addition, all maps should contain a scale, key, outfall location, SWMU boundary, and location of stream channel (if appropriate).

3. In general, data presentation for previous investigation activities conducted at the site is poor. In the August 14, 2001 record of communication LANL agreed to formally provide analytical results in the VCM Plan. However, data to support previous investigation activities was not provided. Please provide supporting analytical results for historical investigations used to make decisions at the site that has not been formally submitted to HWB.

Specific Comments

1. Executive Summary, Page iii

" This includes a 4-in. cast iron drainline and an associated outfall ditch that channeled wastewater to the south rim of DP Canyon and down the north-facing slope of DP Canyon."

Does "this" refer to SWMU 21-011(k)? Was an actual "ditch" constructed to channel wastewater down-slope? Please clarify.

2. Executive Summary, Page iii

"...it received industrial effluent from the wastewater treatment plant in Building 21-257 (that replaced the treatment plant at Building 21-35) from 1967 until the early 1990s when the outfall was left in place."

When did the outfall stop receiving effluent? Please clarify. Was the outfall plugged to prevent accidental discharge when it was removed from service? When did the NPDES expire? Please clarify.

3. Executive Summary, Page iii

"SWMU 21-011(k) was investigated in 1988 by DOE and by the Laboratory's ER Project in 1992 and 1993."

During the DOE and LANL ER investigation activities was the outfall active? Please Clarify.

4. Executive Summary, Page iii

"...2) remove a portion of the radionuclide source term from the hillside by excavating and removing the most highly contaminated soils."

Please clearly define what is meant by "highly contaminated soils".

5. Executive Summary, Page iii

"The entire data set was used to confirm the location of the remaining hotspots in SWMU 21-011(k)..."

Please clearly define what is meant by "hot spots".

6. Executive Summary, Page iii

"the remaining potential contaminants of concern are radionuclides, primarily the relatively short-lived cesium-137 and americium-241;"

Please clearly define the term "short-lived".

7. Executive Summary, Page iv (the page is unnumbered)

"restore the site by placing and compacting approximately 4000 yds^3 of clean fill as a cover over the entire site;"

Based on NMED HWB's communication with LANL ER staff, the cover will be engineered. If an engineered cover is planned for the site, LANL must submit the cover design to HWB for review and approval? Please clarify or provide a schedule for submittal of the conceptual model and engineered cover design.

8. Executive Summary, Page iv (the page is unnumbered)

"install storm water run on and runoff controls:"

Please provide, in the VCM Report, a schedule for maintenance of storm water run on and runoff controls and other BMPs used at the site to maintain cover integrity and prevent erosion at the site.

9. Executive Summary, Page iv (the page is unnumbered)

"The planned land use for this site is industrial, with the site under DOE control for at least the next 100 years, although easy access makes the trail user land use scenario more practical, and.."

In the record of communication, dated 08/14/01, item number seven (7) clearly states the following: "Land use for TA-21 is and will continue to be industrial under DOE ownership and control. However, the scenario for 21-011(k) is not a typical industrial site since it is located on the hillside above the canyon bottom. Therefore, LANL proposed using a more realistic trail user exposure scenario for ALRA and human health screening assessments and presented ALARA assessment results using post-IA confirmation sampling and in situ gamma data. However, to determine the maximum potential exposure, results from post-stabilization/restoration site surveys and/or confirmation sampling will be assessed using a residential scenario." A comparison to residential risk scenario must be included in the VCM Report. Please modify the above statement to adequately address residential risk for confirmation and post-stabilization/restoration sample results.

10. Purpose and Scope, Page 1

"...removal of a drainline extending from the wastewater treatment tanks to an outfall that discharges just below the canyon rim at SWMU 21-011(k);"

Please confirm or modify the above statement to clarify if the outfall currently discharges, as implied in the above statement, or provide the date the outfall was removed from service.

11. Figure 1.1-1. Areas of elevated activity at SWMU 21-011(k) to be removed and stabilized.

This Figure has no scale, SWMU boundary, outfall pipe and stream channel illustrated. As presented, this Figure provides very little useful information. In addition, the colorimetric scale, presenting the data results, is provided in black and white. Since the shades of gray and black are indistinguishable in the Figure, information regarding hot spot location and concentration cannot be ascertained from the Figure. Please submit color Figures with scale, SWMU boundary, outfall pipe location, and stream channel location clearly marked.

12. 2.2.1 1996 Interim Action Soil Removal, Page 7

"The results of a post-excavation radiological survey indicated that the soil activity was reduced from greater than 500,000 counts per minute (cpm) to less than 100,000 cpm over the entire upper drainage area."

Please clarify how large the "entire upper drainage area" is. In addition, the above state indicates a reduction in counts per minute; please discuss actual sample results and contaminant concentration reductions, if data is available.

13. 2.2.2 2000 Chemrad and in Situ Surveys and 2001 Pre-VCM Waste Characterization Sampling, Page 10

A walkover gross gamma survey of SWMU 21-011(k) was performed by Chemrad in July 2000.... An in situ gamma survey was conducted at the site in November 2000 to gather more detailed information about the nature and extent (including depth profiles of the radionuclide contamination at the site)."

The VCM Plan indicates a release of effluent occurred at the site in January 2001. Please clearly explain any potential impacts the January 2001 accidental release may have had on the results of the Chemrad (July 2001) and in situ gamma survey (November 2000). If analytical results or waste characterization data is available for the January 2001 release, please provide copies to HWB for review.

14. 2.2.2 2000 Chemrad and in Situ Surveys and 2001 Pre-VCM Waste Characterization Sampling, Page 11

"The analytical results in Table 2.2-3 show organic chemicals were detected sporadically and at low concentrations and were estimated (J) because the reported values were lower than the reporting limits but above the method detection limits."

Table 2.2-3 does not show organic chemical results, rather inorganic chemical concentrations. Please correct the above statement.

15. 2.2.2 2000 Chemrad and in Situ Surveys and 2001 Pre-VCM Waste Characterization Sampling, Page 11

"No organic chemecals were detected above SAL."

Please correct the typographical error in the above sentence.

16. Figure 2.2-4 Pre-VCM Waste Characterization sampling locations, Page 16

Please include a date or dates when the waste characterization sampling was conducted at the site. In addition, the key on the map is incomplete. Please add a symbol for sample locations.

17. Table 2.2-4 2001 Pre-VCM Characterization Sample Organic Chemical Concentrations, Page 17

The Table should contain the date the samples were collected. In addition, only organic constituents detected should be listed on the Table (i.e. 4-methyl-2-pentane should be omitted). The "J" qualifiers are not labeled consistently through out the Table. Please consistently label qualifiers. The letter "a" is used in the Table (under the acetone column), there is not a letter "a" defined in the Table key. Based on the key, the letter "a" should be removed from the Table and replaced with the number "3".

18. Summary (no section designation), Page 18
"The data show a clear boundary between the northern edge of SWMU 21-011(k) and the DP Canyon stream channel and confirm that radionuclides have not migrated to the channel since the completion of the 1996 IA."

The limited data provided in Section 2.0 "Previous Site Characterization at SWMU 21-011(k)" does not support the above statement. Data for channel sediments and sediments from across the stream channel are not provided or discussed. Additional data is required to support the above statement, please clarify. In addition, based on the information provided in section 4.1 (page 20), sediment within the stream channel has not yet been evaluated in the vicinity of the site. (See comment #20, below)

19. 4.1 Conceptual Model, Page 20

"Therefore, contaminant transport via stormwater or snowmelt runoff and infiltration has been controlled by BMPs."

Please clarify how BMPs control infiltration.

20. 4.1 Conceptual Model, Page 20

"The Canyons Focus Area will address the stream channel as part of the evaluation of sediment and surface and alluvial ground water in DP Canyon."

Please provide a detailed schedule for the investigation of DP Canyon in the vicinity of the site.

21. 4.3.2 Western Drainage Pre-Excavation Screening, Page 21

"This sampling event will take place two months prior to removal and stabilization activities to ensure the data are available when needed to identify areas need to be excavated."

Please submit the sample results to NMED prior to excavation to support VCM activities.

22. 4.4 Technology Evaluation/Literature Search, Page 21

"The data and supporting information for the technology evaluation were obtained from the following sources:"

Please provide the data and supporting information for the technology evaluation to NMED for inclusion in the Administrative Record. All information used to make a decision should be available to the general Public for review.

23. 4.4.1 Solidification Bench Scale Study, Page 23

"Bench-scale (laboratory-scale) testing to develop a soil solidification grout mix for the tuff and soil (including sediment) material was performed..."

The bench-scale report, an attachment with no number or letter designation, provided to support this section (4.4.1) indicates that the samples collected by LANL were not held under chain-of-custody. Please explain the lack of chain-of-custody and indicate why the sample results should be considered valid by NMED.

24. Figure 4.4-1. 2001 bench scale sampling locations and Chemrad survey, Page 24

The map key is incomplete. Please update the key to indicate what the small black circles on the map represent.

25. 4.4.2 Remedial Approach, Page 25

"Site preparation activities will include: set-up of site trailers, clearing and grubbing of all excavation areas and the process area, survey and staking the excavation areas, the process area, stabilization cell, etc.; construction of site support zones and process area; installation of sanitary facilities; tree removal and chipping; improvement and extension of existing haul road; fence removal; installation of temporary fencing; installation of erosion control measures; and the installation of two air monitoring stations."

Please clarify what will be done with the plant material removed from the site during clearing and grubbing and tree removal and chipping. Due to the contaminants present at the site, it is possible that plant material at the site may contain elevated levels of radioactive constituents. Please provide a plan for sampling and analysis of plant material prior to removal from the site. In addition, please clarify where the air monitoring stations are to be located. One air monitoring station should be located in the immediate vicinity of the pug mill to monitor dust generated during the mixing activities.

26. 4.4.2 Remedial Approach, Page 25

"The pugmill (Rapidmix 400) will provide thorough, high-speed, high-shear mixing. This plant is designed to generate very little dust during operation."

And

"ESH-17 will operate two high-volume air samplers during onsite activities and will monitor appropriate air quality parameters."

Please indicate if an Air Quality permit will be required by the New Mexico Environment Department Air Quality Bureau for monitoring air quality during the operation of the pugmill. Also, results of the air quality monitoring must be submitted to NMED in the VCM Completion Report.

27. 4.4.2 Remedial Approach, Page 25

"Construction of a below-grade stabilization cell for burial of the solidified material will proceed concurrently with the excavation and solidification of soil/sediment, and tuff with elevated activity."

Please clarify what is meant by the term "elevated activity" and how it will be determined in the field during the excavation and solidification activities.

28. 4.4.2 Remedial Approach, Page 25

"...placement of slidified..."

Please correct typographical error.

29. 4.4.2 Remedial Approach, Page 25

"Specific testing parameters to verify solidification requirements will be detailed in the Construction Quality Control Plan and the results will be documented in the VLM Completion Report."

Please provide a copy of the Construction Quality Control Plan as an appendix to the report submitted to NMED. In addition, please correct the typographically error "VLM" in the above statement. NMED assumes LANL will submit a Voluntary Corrective Measures (VCM) Completion Report to NMED. Please clarify and correct the above statement.

30. 4.4.2 Remedial Approach, Page 29

"Solidified material will be spread across the bottom of the cell in lifts and compacted."

Please explain in detail how the solidified material will be compacted and the estimated thickness of each lift. Once the material has solidified, will subsidence occur or is the solid material stable. The above sentence is vague, and implies solidified material will be broken into pieces during compaction. Please clarify.

31. 4.4.2 Remedial Approach, Page 29

"A high pressure sprayer along with long handled brushes and rods will be used to effectively remove contaminated material from equipment."

All water generated during decontamination activities must be containerized pending analytical results and proper disposal. Please provide a detailed plan for management of investigation derived waste, including cleaning solutions and wash water generated as a result of solidification and decontamination activities.

32. 4.4.3 Site Restoration, Page 29

This section should be revised and submitted to NMED for review and approval. The revised section should contain detailed information regarding the type of cover planned for the site. LANL had proposed to NMED during several meetings and in the July 14, 2001 record of communication, engineered site restoration along with integrated long-term stewardship activities such as periodic monitoring/site surveys and BMP installation and maintenance. The current section (4.4.3) is vague. If the covered is planned to aid in the demonstration of risk reduction, NMED must review and approve the cover design prior to construction. Although NMED recognizes that plans may not be available at this time, the current plan does not allow for the submittal of the cover design prior to construction. In addition, this section (4.4.3) allows for the cover to be monitored until it is well vegetative. Please modify the plan to include long-term monitoring (LTM) and maintenance of BMPs as outlined in the July 14, 2001 record of communication. The LTM plan may be deferred until the VCM report to allow for data collection during the VCM field activities.

33. 5.1 Confirmation Sampling Below SWMU 21-011(k) Outfall Pipe, Page 30

"Much of the line to be removed is beneath the roadbed leading to the TSTA facility. Since this is the sole access road to this operating nuclear facility, only the above samples will be collected. The need to remove any contaminated soils beneath the outfall pipe, or additional sampling required to define nature and extent of contamination will be determined after review of the fixed laboratory analytical results and in coordination with the TSTA facility."

The investigation of the outfall pipe, as proposed in the VCM Plan, is inadequate. Please revise the investigation to allow nature and extent to be determined during pipe removal activities. NMED does not approve of deferring investigation activities until a later date. NMED recognizes that the TSTA facility is an active nuclear facility, however, NMED believes an alternate approach, coordinated with the TSTA facility, can be employed for pipe removal and allow traffic access to the facility will allowing LANL to adequately define nature and extent of contamination beneath the outfall line. Results of the pipe removal including nature and extent of contamination beneath the pipe must be provided to NMED in the VCM Completion Report.

34. 5.2 Confirmation Surveys and Sampling of Soil Removal Areas, Page 30

"Fixed lab analysis will be performed by gamma spectroscopy (Cs-137 and Am-241), strontium-90 and isotopic plutonium."