



General

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Date: March 26, 2008
Refer To: EP2008-0156

James P. Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Scheduling of the Balance of Fiscal Year 2008 Well Construction and Associated Requests for Extension

Dear Mr. Bearzi:

In the past year, starting with receipt of the New Mexico Environment Department's (NMED) letter of April 5, 2007 regarding monitoring network effectiveness, we have engaged in a series of discussions with NMED regarding the existing monitoring well networks and the need to support cleanup decisions and long-term monitoring requirements. The most recent of those discussions was held with you and your staff on February 22, 2008 to look at the alignment between the plans for new wells and the subsequent Corrective Measures Evaluations (CME) they will support. Our discussions with you and your staff have been constructive in reaching a better mutual understanding of the overall need for additional wells and the range of factors influencing the number, location, and particularly the timing.

At the beginning of the fiscal year (FY), the Laboratory had seven wells scheduled to be drilled. The schedules for those wells had been directed by NMED during the previous year and completions of three of those wells were designated as FY08 stipulated penalty milestones. Since that time, the Laboratory has received NMED direction to drill an additional 11 monitoring wells to be completed within this fiscal year. These wells are in addition to those specified in the Consent Order, and their technical and regulatory basis supports protective CME decisions for material disposal areas, RCRA monitoring at TA-54, and resolution of chromium contamination. As recently as March 18, 2008, the Laboratory received direction for two additional wells to be drilled with FY08 funds to provide further information on the nature and extent of chromium contamination in the regional groundwater. The attached table provides a list of the wells and the NMED-specified completion dates.

Compliance with the scope and schedules for the total of the 18 wells outlined in your letters would require approximately \$19M of new funding in FY08 if we were not to impact other funded Consent Order scope this year. The long-standing federal funding process established by Congress



and the administration nominally requires two years to obtain additional funding to support expanded scope such as this. Alternatively, existing scope could be reprioritized to provide funding for new, higher priority requirements. With your help, we would like to establish a more effective process for incorporating significant new scope in our implementation plans.

The Laboratory recognizes the need to strengthen the existing network of wells to monitor intermediate and regional groundwater beneath and down-gradient from LANL sites. Groundwater monitoring well network evaluation reports reinforce that data from these wells will be important to assess groundwater contamination, and to support selection of remedial actions. Based on the network evaluations, perspectives on priorities gleaned from discussions with NMED, and CME schedules to achieve the overall 2015 Consent Order completion date, the Laboratory has developed and is proposing an optimized well installation plan to satisfy these groundwater monitoring data requirements.

The Laboratory maintains an overall objective to have quality data available and sufficient to support NMED's remedy selection process. The development of this optimized execution plan considered the availability of drilling equipment, drillers experienced in the types of drilling required at LANL, associated oversight and support resources, and the relation between wells in terms of siting, completion, and support to subsequent decision documents. The resulting proposed schedule is based on CME report schedules, the RCRA permit process, and the investigation needs for chromium contamination. The proposed plan will focus on drilling 8 new intermediate and regional wells in FY08, in addition to the alluvial well drilling and well rehabilitation activities that are underway. The laboratory expect to complete the drilling of the remaining high priority wells in FY09, with a few lower priority wells in FY10 based on the dates of related successor reports and decisional actions. The attached table also includes the proposed completion dates and a basis for each request with a review of potential impacts to near term Consent Order deliverables.

The Laboratory has identified funding to support the proposed wells in FY08 and as they are a change from the originally planned wells, the Laboratory is accordingly revising its contract documents to shift the scope and field efforts to align with the optimized installation plan. The proposed FY08 work scope reflects the amount of work that can be accomplished consistent with the goals of quality and safety. As you are aware, we have also submitted a request to DOE-Headquarters for additional funding in FY08 to support new wells, as we continue to pursue additional efficiencies to optimize our funding. Although we are out of cycle for requesting additional FY09 funds to support additional well drilling, we are also continuing discussions with DOE-HQ to support FY09 funding for this work.

The attached proposal stays true to the signed Consent Order and provides for a logistics-based implementation of the new wells. The prioritization of the wells and their successor CMEs do not delay the critical path to the currently established 2015 completion date as set forth in the Consent Order.

The Laboratory is committed to executing well construction as proposed and is currently working to meet those dates. We believed that this critical work must be executed in accordance with this schedule in order to keep the overall program on track. The Laboratory's objective is to "key-up"

this year with these critical wells being completed such that the next fiscal year can be even more successful with a substantial increase in well completions.

Your approval of the attached optimized execution plan is requested. If you have questions or would like further discussions of this proposal, please contact Paul Huber at (505) 606-2225 (prhuber@lanl.gov) or Mat Johansen at (505) 665-5046 (mjohansen@doeal.gov).

Sincerely,



Susan G. Stiger, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,



George J. Rael, Assistant Manager
Environmental Operations
Los Alamos Site Office

SS/DG/PH/DK:sm/pr

Attachment: a/s

Cy (w/att.): Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, White Rock, NM
Tom Skibitski, NMED-OB, Santa Fe, NM
George Rael, DOE-LASO (date-stamped letter emailed)
Mat Johansen, DOE-LASO, A316
Dave Gregory, DOE-LASO, A316
Paul R. Huber, EP-LWSP, M992
Dave McInroy, EP-CAP, M992
Peggy Reneau, WES-DO, M992
EP-LWSP File, M992
RPF, M707
IRM-RMMSO, A150

Well	NMED Due Date	NMED Letter Prescribing the Due Date	LANL's Proposed Completion Date	Discussion	Relation to Key Deliverables
Sandia Canyon (Chromium Project)					
SCI-2, Intermediate (Regional?) Well	30-Apr-08	App w/ Direction - Work Plan for Geochemical Characterization and Drilling for Fate and Transport of Contaminants Originating in Sandia Canyon - December 17, 2007	15-Aug-08	Discussions on March 6, 2008 with NMED staff indicate that there may be a requirement to deepen the well to complete as a regional monitoring well. The approach to this well that was proposed by LANL and subsequently approved by NMED utilizes a separate corehole to obtain the necessary vadose zone data. Screening data from porewater and perched-intermediate groundwater obtained in the corehole will be used to decide whether to complete an intermediate or regional well. The analysis and decision process will require approximately two weeks for quick turnaround analytical results, one week for follow-on discussions and decisions with NMED, and an additional week for drilling preparation. NMED's March 18, 2008 letter allows for an additional 30 days if it is determined to complete a regional well instead of an intermediate well. The Laboratory agrees with and appreciates the acknowledgement of the need for the additional time to complete a regional well. However, the Laboratory proposes that an additional 30 days is also required for the process to evaluate the corehole data and make a final determination of whether to drill an intermediate-depth or regional well plus an additional 15 days for normal contingency. This is the basis for LANL's proposed completion date.	This well can be completed on the proposed schedule with no impact to the due date for the Sandia Canyon Investigation Report proposed in this table.
R-42, Regional Well	30-Jun-08		31-Jul-08	NMED's pending requirement to move the well location east of the current approved location will be incorporated into the current contracting process. The new location will require construction of an access road and drill pad. A minimal additional time to completion will be required as a result. These changes are underway at the time of writing of this letter. The new location will also should not affect NMED's current completion date requirement for the well.	This well can be completed on the proposed schedule with no impact to the due date for the Sandia Canyon Investigation Report proposed in this table.
Un-named Regional Well	1-Oct-08	Investigation of Chromium Contamination in Regional Groundwater - March 18, 2008	15-Dec-08	These two wells were agreed to in discussions with NMED, and it was the Laboratory's understanding that the NMED would request these wells to be drilled in the first quarter of FY09. However, the letter received on March 18 set a schedule requirement for completion dates significantly earlier than anticipated. The Laboratory appreciates the comments in the letter that completion of these wells will be important to support remedy selection. However, due to funding constraints within FY08, these wells cannot be completed on NMED's schedule. The Laboratory understands the importance of the wells and proposes that the wells be drilled in the first quarter of FY09 and completed by December 15, 2008. This determination by NMED implies that there will be a determination by NMED of data gaps in the Sandia Canyon Investigation Report due to NMED in December, 2008. Based on this, the Laboratory proposes that the due date for the Sandia Canyon Investigation Report be revised to September 30, 2009 to allow for installation of the additional regional wells and collection of two rounds of quarterly samples. This will provide for a more complete investigation report and an efficient regulatory and administrative process to CME.	The requirement for these wells warrants LANL's proposal to extend the current due date for submittal of the Sandia Canyon Investigation Report from December 31, 2008 to September 30, 2009.
Un-named Regional Well	31-Oct-08	Investigation of Chromium Contamination in Regional Groundwater - March 18, 2008	15-Dec-08		
TA-54					
R-37 (MDA H) - Regional Well	31-Mar-08	App w/ Direction - Drilling Work Plan for Regional and Intermediate Wells at TA-54 - December 7, 2007	31-Oct-08	These wells are proposed as the priority wells for TA-54, specifically for their role in supporting the NMED's statement of basis for the proposed remedy for MDA H. These wells will also be completed in time to support the current RCRA permit process. The proposed date reflects the time that may be necessary to conduct a survey based on the identification of an archeological site at NMED's approved location.	The NMED has already issued the statement of basis for the remedy at MDA H, but these two regional wells are important for supporting implementation of corrective actions for the site.
R-40 (MDA H) - Regional Well	31-May-08		31-Oct-08		
R-39 (MDA G) - Regional Well	31-Mar-08	App w/ Direction - Drilling Work Plan for Regional and Intermediate Wells at TA-54 - December 7, 2007	31-Oct-08	These wells are proposed as the second priority of the group of TA-54 wells. They are important for providing data for the CME report for MDA G as well as for their support to the current RCRA permit process.	The current schedule for the CME report for MDA G is October, 2008. However, sufficient groundwater data to support remedy selection will not be available at that time. LANL proposes that the date for the CME report be moved out (date to be negotiated) to allow for the availability of sufficient groundwater data to support remedy selection.
R-41 (MDA G) - Regional Well	31-May-08		31-Mar-09		
R-38 (MDA L) - Regional Well	31-Jul-08	App w/ Direction - Drilling Work Plan for Regional and Intermediate Wells at TA-54 - December 7, 2007	31-Jul-09	This well is proposed at the third priority of the group of TA-54 wells. The well is important for providing data for the CME report for MDA L as as for its support to the current RCRA Permit process	
PCI-1 (MDA G and other objectives) - Int Well	31-Jul-08	App w/ Direction - Drilling Work Plan for Regional and Intermediate Wells at TA-54 - December 7, 2007	31-May-09	These two intermediate wells are located in Pajarito Canyon and have multiple objectives including monitoring related to the TA-54 MDAs. They are also important for evaluation of potential groundwater pathways in the vadose zone beneath Pajarito Canyon. The second intermediate well (PCI-2) is contingent on the presence of perched-intermediate groundwater at PCI-1. The need for, and final location of, PCI-2 will be determined after drilling PCI-1.	These wells are expected to be drilled in time to support the applicable CMEs at TA-54 and the current RCRA permit process.
PCI-2 (contingency well) - Intermediate Well	30-Sep-08		TBD		
Pajarito Canyon					
R-17i - Intermediate Well	not specified	Approval with Modifications - Pajarito Canyon Work Plan - October 11, 2005	Unspecified date in FY10, if necessary.	NMED's approval of the Pajarito Canyon Work Plan required the drilling of R-17 with no specified date other than for it to be completed prior to submittal of the Pajarito Canyon Investigation Report which is due to NMED on September 30, 2008. To date, 5 rounds of samples have been collected from the completed R-17 well, and none show contamination. During drilling of R-17, a sample collected from the perched-intermediate groundwater also showed no contamination. LANL proposes that the combination of the sediment investigation data, alluvial groundwater data (from wells being installed in Spring '08), and the R-17 borehole and monitoring well data be used to determine the need for an intermediate well at R-17i. For now, LANL proposes that the well be deferred to a date that Because available funding this year is being directed to other wells with greater potential for contaminant impacts, LANL proposes that R-17i be drilled at a later date and that water quality data be reported after the Pajarito Canyon Investigation Report is submitted.	LANL proposes that the Pajarito Canyon Investigation Report be submitted prior to the determination of the need for R-17i and that, if required, information obtained from R-17i would be reported in the well completion report and in the Periodic Monitoring Reports.

Well	NMED Due Date	NMED Letter Prescribing the Due Date	LANL's Proposed Completion Date	Discussion	Relation to Key Deliverables
South Canyons					
South Canyons Intermediate #1 (CdV-37-1i)	31-Mar-08	App w/Modifications - South Canyons Investigation Work Plan - March 28, 2007	31-Mar-09	These wells were proposed by LANL as part of the South Canyons investigation work plan. The proposed dates in this table will allow for these wells to be completed in time to provide data for the Water Canyon/Canon de Valle investigation report which has a Consent Order due date of December 31, 2010 and the Ancho/Chaquehui/Potrillo Canyons Investigation Report due February 28, 2011.	The proposed schedule will allow for groundwater data to be available for the current Consent Order schedule for the Water Canyon/Canon de Valle IR due December 31, 2010 and the Ancho/Chaquehui/Potrillo Canyons Investigation Report due February 28, 2011.
South Canyons Intermediate #2 (R-27i)	31-Mar-08		31-Mar-09		
R-30	31-Mar-08		15-Dec-09		
TA-16					
R-25b and c - R-25 intermediate depth screen(s) replacement	4/30/08 (R-25b) 5/31/2008 (R-25c)	Approval of the Drilling Work Plan for Regional Well R-25b - October 18, 2007. Notice of Approval of the Drilling Work Plan for Well R-25c - March 11, 2008.	30-Jun-08 (R-25c) 31-Aug-08 (R-25b)	As described in the Drilling Work Plan for the R-25 replacement wells, the objective of the replacement of the perched-intermediate screens at existing R-25 will require two separate wells. The basis for LANL's proposed completion date is that two wells will be required to meet the screen-replacement objective. The replacement wells and the completion of the Regional well (CdV-16-3i) are important for supporting the TA-16, 260 Outfall CME process. The CME Report was submitted to NMED in August 2007, and NMED is waiting for additional groundwater data from these wells to support the statement of basis process. The NMED's approval letters and required dates do not reflect the necessary sequencing of wells. The deeper well (R-25c) should be drilled first to investigate the presence of water in the R-25, Screen 3 interval. As noted in the drilling work plan, if that interval does not have sufficient water (the current transducer indicates that it may be a dry zone), then that well will be backfilled to the elevation of R-25, Screen 1 and completed. This would omit the need for the second well (R-25b). The Laboratory's proposed dates reflect this strat	The CME Report has already been submitted to NMED, so LANL proposes that prioritization of the R-25 replacement wells within FY08 to facilitate remedy selection for the intermediate and deep groundwater CME for the 260 outfall.
TA-16 - Regional Well #1 (CdV-16-3i)	30-Jul-08	Approval of the Request to Revise the Order of Rehabilitation of Three Wells - December 7, 2007. A drilling work plan for CdV-16-3i was submitted to NMED on March 14, 2008 that proposed a start date of January 1, 2009.	15-Feb-09		
MDA C					
Un-named Regional Well	31-Oct-08	Notice of Approval w/Modification - Drilling Work Plan for Regional Monitoring Well at MDA C - January 18, 2008	30-Jan-09	This well is important for supporting the CME for MDA C. The Phase 2 investigation is underway, but is being extended in duration because of NMED's direction to conduct a vapor-phase sampling pilot study prior to completion of the Phase II investigation. The pilot study work plan has been submitted to NMED on March 19, 2008. This extension of the Phase II work is expected to delay the collection of data that will support siting of the regional well. The proposed completion date for the well reflects the timing of the key data for siting the well.	The proposed schedule for completion of the well will not impact the CME process at MDA C and has no impact on the overall Consent Order goal for completion of all sites by 2015.
LA/Pueblo					
R-3 - Regional Well (TW-1 replacement)	TBD	no schedule has been set by NM	FY09/10	This is a group of wells proposed by the Los Alamos and Pueblo Canyon Groundwater Monitoring Well Network Evaluation, Rev.1. LANL is waiting for final approval of the proposed wells and to set a schedule for the wells. The intermediate well near TA-53 is a key well for investigating potential perched-intermediate groundwater within the Guaje pumice bed south of Los Alamos Canyon. Investigation of this aspect of the conceptual model is important for supporting the CME process for the TA-21 MDAs.	LANL's proposal for installation of these wells in FY09/10 will not affect any key deliverables with the possible exception of the MDA A CME Report which is currently due to NMED on September 30, 2008. LANL proposes that the date for the MDA A CME Report be pushed out (final date to be negotiated) to allow for adequate groundwater data to be available to support the CME. A final schedule for these wells should be consistent with an overall prioritization for wells in FY09.
Un-named Regional Well (Buckman protection emphasis)	TBD	no schedule has been set by NM	FY09/10		
Un-named Intermediate Well (TW-2A replacement)	TBD	no schedule has been set by NM	FY09/10		
Un-named Intermediate Well (near TA-53)	TBD	no schedule has been set by NM	FY09/10		