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DEPARTMENT OF ENERGY
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos, New Mexico 87544

AUG 26 2019

Mr. John E. Kieling
Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
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Dear Mr. Kieling:

Subject: Request for Extension of Westbay Project Milestone

The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) is requesting an extension for submittal of Milestone #14, "Westbay Wells Reconfiguration Completion Report for R-5, R-7, R-8, R-9i, R-19, R-25, and R-31." As stated in the description of the milestone in the fiscal year (FY) 2019 version of the Appendix B Milestones and Targets table in the 2016 Compliance Order on Consent (Consent Order), "This report will include a summary of field activities and as-built information associated with reconfiguration of R-5, R-7, R-8, R-9i, R-19 and R-31, and plugging and abandonment of R-25 which requires removal of the Westbay system."

The FY 2019 version of Appendix B stipulates submittal of Milestone #14 by August 30, 2019. EM-LA requests an extension for the above-mentioned milestone for good cause in accordance with the Consent Order, Section XXVIII, Extensions, C(6), specifically, "unanticipated breakage or accident to machinery, equipment, or lines of pipe." In accordance with Section XXXV.A.3 of the Consent Order, Milestone #14 will no longer be a milestone. EM-LA proposes to submit the Westbay Wells Reconfiguration Completion Report for R-5, R-7, R-8, R-9i, R-19, R-25, and R-31 by March 30, 2020. No subsequent milestones or targets would be affected by this extension request. Below is a summary of the good-cause events that impacted the completion of Milestone #14.

R-5: Unanticipated breakage of pipe occurred during plugging activities of R-5 screen 4 and well casing below screen 3. As cement was being placed through a small-diameter pipe called a tremie pipe, the tremie pipe consequently became cemented into the well and stuck. The standard operation being executed was to extend the end of the steel tremie pipe with a section of polyvinyl chloride (PVC) pipe, lower the pipe string into the hole, and inject the cement through the pipe string out the end of the PVC pipe and into the section of well casing to be abandoned. The intention of the operation was to plug screen 4 by placing the cement up to a predetermined level within the PVC pipe well below the bottom of screen 3, and once the cement cured, torque and break the PVC portion of the pipe in order to extract the steel tremie pipe. This method prevents smearing of wet cement through retained screens, which would potentially impact the groundwater chemistry. This process was successfully used on previous wells in this project, as well as the previous Westbay well conversions at Los Alamos National Laboratory (LANL). In

the case of the plugging operations at R-5, however, applying torque to the pipe did not free the PVC portion, which would have enabled extraction of the string of tremie piping. The likely explanation is that the PVC portion of the tremie pipe was damaged while being lowered into the well, causing the cement to enter the well casing through a break in the PVC at a higher elevation than originally planned. As a result, the PVC string and some portion of the steel pipe were cemented in place, making the process of releasing the pipe by torque impossible. Well R-5 is an older well at LANL, constructed using the older well design consisting of threaded and coupled well casing, which leaves an internal lip every 20 ft. The bottom of the PVC pipe likely caught on such a lip during deployment. This unexpected condition, caused by unanticipated breakage of a line of pipe (the PVC portion of the tremie), necessitates planning and executing a different method for extracting the pipe, the details of which are currently being explored. The stuck pipe, and subsequent evaluation of retrieval alternatives and recovery operations, are collectively delaying the schedule of the project and constitute good cause for not completing this work within the established milestone date. Lessons learned associated with the unexpected conditions have been evaluated, and in the future, centralizers will be used on the older wells with threaded and coupled well casings, thereby mitigating the potential for a PVC breakage.

R-25: During the attempt to remove the Westbay equipment from well R-25 after deflation of the 26 packers, the PVC components broke and allowed removal of only 340 ft of the total 1836-ft length of the sample piping string, with the rest of the sample piping string falling to the bottom of the hole. Initial attempts to remove or "fish" the components out of the hole have resulted in extraction of additional pieces of the sample piping string (total removed is now 740 ft), but further attempts are necessary to fish the remaining 1096 ft of Westbay equipment out of the well, which is impacting the completion of the milestone. The good cause of the R-25 delay is, as with the R-5 delay, unanticipated breakage of lines of pipe. Further complications at R-25 include the following: (1) Downhole conditions at screen 3 demonstrate that there is a point of resistance at that location, which impedes efficient removal operations and (2) Packer and remaining Westbay component removal is requiring much more force and more robust equipment than was experienced for similar wells; 23 packers remain in R-25.

In an attempt to offset the schedule loss, the field team has mobilized a total of three pump hoist rigs and crews operating 7 days per week. Well R-25 is on the critical path for completion of the Westbay well reconfiguration project because of the remaining scope. Experience on this well has indicated extraction of approximately 100 ft of the Westbay sampling system is possible per week given the institutional activity and weather impact on the fieldwork. Completing the extensive casing perforation required followed by plugging and abandoning R-25 will take an estimated 21 additional days. Once reconfiguration work is completed in January, surface pad installations will be completed and the aquifer test interpretations from the 12 screens tested in the 6 reconfigured wells will be finalized. Following these activities, 45 days will be required to draft the reconfiguration completion report. An additional 15 days will be required to finalize and submit the report to the New Mexico Environment Department. The proposed submittal date of March 30, 2020, is based on this calculated completion schedule described above, and the estimated duration to complete that scope is based on field experience to date and is driving the proposed March 30, 2020, submittal date of the "Westbay Wells Reconfiguration Completion Report for R-5, R-7, R-8, R-9i, R-19, R-25, and R-31." In the interim, EM-LA will provide a progress update by September 30, 2019.

Thank you in advance for your consideration of this extension request. If you have any questions, please contact Erich Evered at (505) 309-1360 (erich.evered@em-la.doe.gov) or Cheryl Rodriguez at (505) 665-5330 (cheryl.rodriguez@em.doe.gov).

Sincerely,

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N3B Records
Public Reading Room (EPRR)
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