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Environmental Management
Los Alamos Field Office
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Date: March 8, 2022
Refer To: N3B-2022-0070

Ms. Ramona Martinez
Upper Pecos Basin Supervisor
Water Resource Allocation Program
Water Rights Division
New Mexico Office of the State Engineer
Bataan Memorial Building
407 Galisteo Street
Santa Fe, NM 87504-5102

Subject: Response to New Mexico Office of the State Engineer for Approval of Amended Well Plugging Procedure and Conditions of Approval for the Revised Well Plugging Plan of Operations for RG-98114

Dear Ms. Martinez:

On February 7, 2022, the U.S. Department of Energy Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) received the New Mexico Office of the State Engineer (NMOSE) letter titled "RE: Request for Amendment to Approved [Amended] Well Plugging Plan of Operation Conditions of Approval for RG-98113," (hereafter, the letter).

In the letter, NMOSE denied the draft "Proposed Amendment (03/2021) to Revised Plugging and Abandonment of Well R-25" emailed by N3B on April 15, 2021. NMOSE instead provided an approved amended well plugging procedure and Conditions of Approval for the revised Well Plugging Plan of Operations for RG-98113 (R-25), which supersedes all previous approvals for the Well Plugging Plan of Operations, approved July 15, 2019, and the approved amendment from June 19, 2020. As stated in the letter, NMOSE Condition of Approval No. 19 requires that a timeline of events be submitted within 30 days of receipt of the letter. The timeline must include commencement of well plugging operations with respect to mobilization of a New Mexico–licensed driller with the equipment and tooling designed to execute the approved Procedure and Conditions of Approval prescribed in the letter. The R-25 timeline is provided in Enclosure 1.

A meeting was held on February 8, 2022, with NMOSE, the New Mexico Environment Department Hazardous Waste Bureau, EM-LA, and N3B to review the requirements specified in the letter. During the meeting, there were deviations to the NMOSE-approved procedure and conditions of

approval upon which all parties agreed. The requirements or summary of requirements and the agreed-upon changes and/or clarification are provided below.

Procedure Requirement #1: "A complete well video log shall be run from ground surface to total depth of the well."

> *Description of Change:* It was agreed that the video camera does not need to be run below the casing into the open formation.
>
> *Clarification:* NMOSE stated that any changes required to the procedure requirements will be made real time as much as possible based upon the downhole video.

Procedure Requirements #3 and #6: Steps require that perforation of the well casing be performed.

> *Description of Change:* NMOSE requires that a description of the equipment to be used for perforations and how it will be used be provided to NMOSE before performing perforations.
>
> *Clarification:* NMOSE stated that perforations do not need to occur in the wire-wrapped screens.

Procedure Requirement #7: "The tremie shall be placed as close to the top of the lower sealed interval as possible. Neat Type I/II cement grout containing no more than 6 gallons of fresh water per 94-pound sack of Portland cement shall be pumped from the total depth to surface in one continuous lift. The cement shall be placed in one continuous lift and the tremie pipe shall not be pulled above the top of the cementing column, at any time, during placement. No additives shall be permitted for this cement plug."

> *Description of Change:* It was agreed that neat cement type I/II shall be used below the cement packer. Bentonite grout/cement with less than 6% bentonite may be used to fill the casing areas with perforations in the continuous pour from the top of the cement packer. Neat cement type I/II shall be used in the last setting of cement at the surface. NMOSE agreed that the tremie may be left in place following the continuous pour.
>
> *Clarification:* NMOSE noted that the use of oil and gas methods for the pressure cementing and continuous pour above the cement packer would be preferred, such as use of a cement pump similar to that on a Haliburton cement truck.

Condition of Approval #6.ii: "Cement will be allowed to set for no less than 48 hours prior to the commencement of any further plugging activities upon completion of step #1 and step #3 of the approved procedure."

> *Clarification:* The procedure steps should refer to step #2 and step #4 instead of step #1 and step #3.

Condition of Approval #18: "Per §19.27.4.37 NMAC Rules and Regulations, NMOSE witnessing of the plugging and associated activities **will** be required and shall be facilitated by a NMOSE observed, or an authorized NMOSE agent, onsite by calling the District 6 NMOSE Office at 505-827-6120, at least 72-hours in advance. Witnessing of decommissioning activities by NMOSE or its authorized agent, shall occur between the hours of 8:00 A.M. and 5:00 P.M., Monday through Friday and shall not occur during any observed holidays. The decommissioning of RG-98113 or any associated activities prior to placing sealant, **shall not occur** without an observer from the NMOSE present."

> *Description of Change:* EM-LA/N3B stated that RG98113 (R-25) is located within the Los Alamos National Laboratory (LANL) Weapons Facility Operations (WFO) area, to which EM-LA/N3B do not operationally control access. Therefore, the requirement to conduct all work from 8:00 a.m. to 5:00 p.m. on weekdays will be difficult because of other scheduled activities at the WFO. EM-LA/N3B has had to modify the work schedule so that work typically occurs from 2:00 p.m. to 2:00 a.m., Monday through Sunday. NMOSE stated that they are willing to be flexible and are not opposed to working outside of the required time periods.
>
> *Clarification:* It was agreed that NMOSE must be provided with at least 72 hours of notification for (a) downhole video (Procedure Requirement #1), (b) placement of cement plug in the bottom into the open formation (Procedure Requirement #2), (c) cement squeeze formation pressure testing (Procedure Requirement #4), (d) squeezing of cement (Procedure Requirement #4), and (e) the last setting of cement at the surface (Procedure Requirement #7). NMOSE does not need to be provided a 72-hour notice or be on-site for perforation of the well casing (Procedure Requirement #3) and setting the packer (Procedure Requirement #4).

EM-LA/N3B request that NMOSE review the clarifications and changes and notify EM-LA/N3B if there are any discrepancies in the information provided. EM-LA/N3B also request that NMOSE provide a list of personnel, or its authorized NMOSE agents, who will be on-site for plugging and abandonment activities to ensure that NMOSE personnel have LANL access badges and are appropriately trained.

If you have questions, please contact Christian Maupin at (505) 695-4281 (christian.maupin@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

Sincerely,

Joseph Murdock
Program Manager
Environment, Safety and Health
N3B-Los Alamos

Sincerely,

ARTURO DURAN Digitally signed by ARTURO DURAN
Date: 2022.03.07 12:37:24 -07'00'

Arturo Q. Duran
Compliance and Permitting Manager
Office of Quality and Regulatory Compliance
U.S. Department of Energy
Environmental Management
Los Alamos Field Office

Enclosure(s):
1. Timeline for Plugging & Abandonment Activities at R-25 (EM2022-0104)

cc (letter and enclosure[s] emailed):
Patrick Longmire, NMED-GWQB
Neelam Dhawan, NMED-HWB
Rick Shean, NMED-HWB
Chris Catechis, NMED-RPD
M. Lee Bishop, EM-LA
John Evans, EM-LA
Thomas McCrory, EM-LA
Michael Mikolanis, EM-LA
David Nickless, EM-LA
Kenneth Ocker, EM-LA
Cheryl Rodriguez, EM-LA
Hai Shen, EM-LA
William Alexander, N3B
Emily Day, N3B
Sherry Gaddy, N3B
Debby Holgerson, N3B
Danny Katzman, N3B
Thomas Klepfer, N3B
Kim Lebak, N3B
Joseph Legare, N3B
Dana Lindsay, N3B
Pamela Maestas, N3B
Christian Maupin, N3B
Joseph Sena, N3B
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Troy Thomson, N3B
Steve Veenis, N3B
Steve White, N3B
emla.docs@em.doe.gov
n3brecords@em-la.doe.gov
Public Reading Room (EPRR)
PRS website

Timeline for Plugging & Abandonment Activities at R-25*

	Days																																
Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Mobilize rig/ancillary equipment to PLY (inspections, decon, etc.)			3																															
Mobilize to R-25 in TA-16 (setup rig, mast up rig inspection)						3																												
Remove mechanical packer							1																											
Downhole video log well								1																										
Pump cement plug 1252 - 1220 ft bgs with tremie (48 hr cure)											3																							
Mobilize jet perforating equipment to R-25 (inspections, etc). Rig up and perforate 1220 - 1184 ft bgs. Rig down, demobilize.												1																						
Set cement retainer packer, mobilize cementing equipment to R-25, pressure test perforated zone, squeeze cement (48 hr cure)																4																		
Perforate from top of plug to 55 ft bgs with knife perforator																											11							
Pump cement from top of plug to surface in one continous lift (may abandon tremie in place, 48 hr cure)																															4			
Cut off well casing, demobilize rig and equipment to PLY																																1		
Decon rig and pipe/tooling, demobilize from PLY																																		2
Field work complete																																		0

***Assumptions**

1) Start date to be determined.
2) Mexican Spotted Owl nesting exclusions beginning March 1 may affect start date and working hours.
3) Durations are estimated and may be adjusted at any time.
4) Durations assume that work can be conducted on a 15:00 - 03:00 schedule, 7 days/week, to avoid work stoppages due to WFO activities.
5) Delay of field work until monsoon season (lightening) or winter will likely affect durations due to weather delays.
6) COVID-19/vaccine work protocols may affect crew availabilty and durations.