

December 4, 2020

Mr. James Smith
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Washington, DC 20555-0001

Mr. Paul Davis
Oklahoma Department of Environmental Quality
707 North Robinson
Oklahoma City, OK 73101

Mr. Robert Evans
U.S. Nuclear Regulatory Commission
1600 East Lamar Blvd.
Arlington, TX 76011-4511

Re: Docket No. 070-00925; License No. SNM-928
OPDES Permit Changes Related to the Phased Decommissioning Process

Dear Sirs:

Solely as Trustee for the Cimarron Environmental Response Trust (CERT), Environmental Properties Management LLC (EPM) is revising the decommissioning plan for the Cimarron site to implement a phased approach to groundwater remediation. The U. S. Nuclear Regulatory Commission (NRC) and the Oklahoma Department of Environmental Quality (DEQ) support the use of a phased approach to achieve compliance with decommissioning criteria and termination of the NRC license with available funding.

The first phase of groundwater remediation will consist of installing groundwater extraction and treated water injection components only in areas in which the concentration of uranium in groundwater exceeds the license criterion of 180 picocuries per liter (pCi/L). Treating groundwater extracted from only these areas eliminates the need for one of the three planned uranium treatment (ion exchange) systems as well as the planned biodenitrification system. Eliminating biodenitrification would eliminate a substantial waste stream, which may require disposal as low level radioactive waste (LLRW). Eliminating the fabrication, installation, and operation of these two treatment systems, combined with the elimination of the waste streams created by these systems, may reduce the cost of decommissioning to the extent that available funding may achieve compliance with the decommissioning criteria and termination of the NRC license.

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During the first phase of remediation, groundwater from Burial Area #1 (BA1), containing less than one milligram per liter (mg/L) nitrate, will be pumped to an ion exchange treatment system located in the Western Area Treatment Facility (WATF) for treatment. Groundwater from western remediation areas, which contains nitrate exceeding drinking water standards, will be pumped to a separate ion exchange treatment system located in the WATF for treatment.

A portion of the treated water from the BA1 treatment system will be returned to BA1 and injected into treated water injection trenches located upgradient of the contaminant plume. The remainder of the treated water will be sent to the WATF effluent tank. A portion of the treated water from the western area treatment system will be injected into treated water injection trenches located upgradient of Burial Area #3. The remainder of the treated water will be combined with treated water from BA1 in the WATF effluent tank.

The combined effluent will be discharged to the Cimarron River through a single outfall. The combined effluent is expected to contain nitrate at concentrations less than 25 mg/L nitrate, but exceeding the 10 mg/L concentration limit in the existing Oklahoma Pollutant Discharge Elimination System (OPDES) permit.

The existing OPDES permit was issued in 2017 so the NRC could review the discharge permit as part of the environmental assessment of the November 2018 *Facility Decommissioning Plan – Rev 1* (ML19352E486).

The 10 mg/L nitrate concentration limit was established as a Best Professional Judgement (BPJ) limit. The biodenitrification system was expected to reduce the concentration of nitrate in groundwater to less than the EPA drinking water standard of 10 mg/L, so that concentration was stipulated in the OPDES permit. EPA established this nitrate concentration limit of 10 mg/L to protect public and private water supplies; however, the Cimarron River is neither a public nor a private water supply – it is only designated as an emergency water supply.

EPM provided a maximum anticipated discharge flow rate during the first phase of groundwater remediation of 250 gallons per minute (gpm), and a maximum nitrate concentration of 25 mg/L. The DEQ calculated the instream concentration of nitrate in the Cimarron River based on that discharge, using a 7-day, 2-year low-flow rate of 26.95 million gallons per day (MGD) and a

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background nitrate concentration of 0.316 mg/L for the river. The result was an instream nitrate concentration of 0.641 mg/L, which is less than one-tenth of the drinking water standard.

The existing OPDES permit will expire July 31, 2022 and can be modified when renewed. The DEQ has indicated that the potential impact to the Cimarron River is so insignificant that the nitrate concentration limit of 10 mg/L may be replaced with a requirement to report the concentration of nitrate in the discharged water. This would enable EPM to achieve the goal of eliminating biodenitrification as well as the biomass waste stream.

An alternative to waiting for permit renewal is applying for a permit modification immediately. However, obtaining a permit modification is a 6-month to 1-year process. EPM and the NRC agree that it is not reasonable to wait until the OPDES permit is renewed or until we receive a modified permit to submit a decommissioning plan. Consequently, EPM and the NRC have agreed verbally that the revised decommissioning plan will contain the existing permit as an appendix so it can be submitted as soon as practical.

It is important to note that the OPDES permit limit for uranium (30 micrograms per liter) will not change. The elimination of biodenitrification will have no impact on the evaluation of compliance with NRC effluent limits presented in Attachment 2 of the May 7, 2019 response to NRC requests for supplemental information (ML19129A290).

Please contact me at (405) 642-5152 or at jlux@envpm.com if you desire clarification or if additional information is needed.

Sincerely,



Jeff Lux, P.E.
Trustee Project Manager

cc: Christine Pineda, NRC (electronic copy only)
Michael Broderick, DEQ (electronic copy only)
Carol Paden, DEQ (electronic copy only)