environmental
properties management, LLC

May 23, 2019

Mr. Ken Kalman
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

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; Suite 400
Arlington, TX 76011-4511

Re: Docket No. 70-925; License No. SNM-928
Notes from Meetings Conducted April 4-5, 2019

Dear Sirs:

Solely as Trustee for the Cimarron Environmental Response Trust (CERT), Environmental Properties Management LLC (EPM) submits herein notes from meetings with the US Nuclear Regulatory Commission (NRC), the Oklahoma Department of Environmental Quality, EPM, Burns & McDonnell Engineering Company, Enercon Services, and Veolia Nuclear Solutions Federal Services, held at NRC headquarters in Rockville, Maryland.

Please call me at (405) 642-5152 or e-mail me at jlux@envpm.com if you have questions or desire clarification. Thank you.

Sincerely,

Jeff Lux, P.E.
Project Manager

Attachment

cc: Meeting attendees shown in Attachment 1 (electronic copy only)
NRC Public Document Room (electronic copy only)

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ATTACHMENT 1
NOTES FROM APRIL 4 – 5, 2019 MEETINGS

Cimarron Environmental Response Trust
April 4-5, 2019 Meeting Notes

Meeting Attendees

NRC:
- Ken Kalman
- Lifeng Guo
- Christine Pineda
- Karen Pinkston
- Ron Burrows
- Bill von Till

DEQ:
- Paul Davis
- Jordan Caldwell
- Mike Broderick

Environmental Properties Management:
- Bill Halliburton
- Jeff Lux

Burns & McDonnell Engineering Company:
- John Hesemann

Enercon Services:
- Jay Maisler

Veolia Nuclear Solutions – Federal Services:
- Ja-Kael Luey

Introduction

Mr. Kalman announced that notice of these meetings had been published in the Federal Register. The public notice stated that members of the public who wished to attend could attend via teleconference. No members of the public attended.

Mr. Lux stated that there are two objectives for the meetings:

1. Present the Decommissioning Plan (D-Plan) and provide descriptions of the groundwater remediation infrastructure and water treatment facilities, as well as the work that will be performed, to achieve license termination.
2. Review the NRC's February 28, 2019 Request for Supplemental Information (RFI) to obtain clarification on exactly what information is needed and to determine how to respond in such a manner that the response to each request will be sufficient.

NOTES ON APRIL 4TH PRESENTATIONS

Project Overview – Presentation #1

The Cimarron facility produced mixed oxide and uranium fuel. All decommissioning for mixed oxides was completed and License SNM-1174 was terminated by the Nuclear Regulatory Commission (NRC) in 1993. Buildings, equipment, waste, and soil have been decommissioned and released for unrestricted use, and only groundwater remediation is required to complete decommissioning for uranium and achieve license termination for License SNM-928.

A summary of the license history was provided, as well as a description of the formation of the Cimarron Environmental Response Trust (the CERT) and the funding available to the CERT. The two primary beneficiaries are the NRC and the Oklahoma Department of Environmental Quality (DEQ). The following four accounts provide all available funding:

1. The Administrative Cost Account covers the Trustee's administrative costs
2. The Federal Environmental Response Cost Account covers the cost to achieve the objectives of the federal government.
3. The State Environmental Response Cost Account covers the cost to achieve the objectives of the State of Oklahoma.

4. A Standby Trust Account also covers the cost to achieve the objectives of the federal government. This account is held in a separate trust, and the NRC is the sole beneficiary of that Trust.

Approximately 282 acres of the original CERT property has been divested, and the CERT now owns approximately 500 acres of property.

The only environmental media requiring remediation (decommissioning) is groundwater and both Federal and State remediation goals have been established for contaminants in groundwater. The federal goal for uranium in groundwater is 180 picoCuries per liter (pCi/L) for total uranium (equal to 110 – 180 micrograms per liter, or µg/L, based on the enrichment of the uranium). Two federal goals exist for technetium 99 (Tc-99), both based upon a drinking water scenario. The NRC has set a goal of 3,790 pCi/L, and the Environmental Protection Agency (EPA) has set a goal of 900 pCi/L.

The State remediation goal for uranium in groundwater is 30 µg/L. The State remediation goal for nitrate in groundwater is 22.9 milligrams per liter (mg/L) except in the process building area, where the goal is 52 mg/L. The State remediation goal for fluoride in groundwater is 4 µg/L.

Historical groundwater assessments prior to the creation of the CERT sought exclusively to identify groundwater exceeding the NRC decommissioning criterion of 180 pCi/L total uranium. After the creation of the CERT, several years of additional assessment were required to complete the delineation of impact to groundwater for uranium, nitrate, and fluoride to identify all groundwater exceeding State remediation goals.

A decommissioning plan was submitted at the end of December 2015. Requests for additional information (RAIs) were issued in 2017. Responses to RAIs were submitted, and a pilot test was conducted in 2017 and 2018. All this work culminated in the submittal of *Facility Decommissioning Plan – Rev 1* (the DP) on November 2, 2018.

Radiological Status of the Facility

The conceptual model depicting alternating layers of sandstone and mudstone, extending through a transition zone to the Cimarron River's alluvial deposits was presented. A more detailed depiction of the distribution of permeable material within the silty clays of the transition zones was also provided.

The extent of groundwater impact exceeding NRC and/or DEQ Criteria has been delineated as follows:

- Uranium exceeds the NRC criterion in two areas, Burial Area #1 (BA1) and a portion of the Western Alluvial Area (WAA).
- Uranium exceeds its State Criterion in the WAA, the Uranium Pond #1 (UP1) and Uranium Pond #2 (UP2) Areas, Burial Areas #2 and #3 (BA2 and BA3), and near Monitor Well 1348.
- Nitrate exceeds its State Criterion in the WAA, the UP1 and UP2 Areas, BA2 and BA3, the Process Building Area (PBA), and near Monitor Well 1348.
- Fluoride exceeds its State Criterion in the WAA, the UP1 and UP2 Areas, and near Monitor Well 1348, but this was not shown, because groundwater treatment will not be required to achieve the remediation goals for fluoride. The extent of fluoride exceeding its State Criterion was depicted in the DP.

All but approximately 52 acres of the site (Subareas F, G, and N) has been released for unrestricted use. It was noted that only approximately two acres of that property contains groundwater exceeding the NRC Criterion. The DP included a proposal for redefinition of the licensed areas.

Groundwater Remediation Overview – Presentation #2

The remediation process consists of the extraction of impacted groundwater from extraction wells and trenches, and the treatment and discharge/injection of the treated water. Extracted groundwater will be routed to a water treatment system where contaminants of concern (COCs) will be removed from the water. A portion of the treated water will be injected into upland areas to drive impacted groundwater toward groundwater extraction components, and the remainder will be discharged to the Cimarron River (in accordance with a discharge permit issued by the DEQ).

To facilitate planning and communication, the Site has been broadly divided into three areas: Burial Area #1 (BA1), the Western Alluvial Area (WAA), and the Western Uplands Area (WUA). These areas have been further subdivided into the following remediation areas:

Western Alluvial Areas	Western Upland Areas	Burial Area #1
WAA U>DCGL	1206-NORTH*	BA1-A
WAA-WEST	WU-UP1	BA1-B
WAA-EAST	WU-UP2-SSA	BA1-C
WAA-BLUFF	WU-UP2-SSB	
	WU-PBA	
	WU-BA3	
	WU-1348	

*Note: the aquifer in the 1206-NORTH remediation area is comprised of Transition Zone deposits, as opposed to the sandstone aquifers present in the other WUA remediation areas.

Slides depicting these remediation areas, the groundwater remediation infrastructure, and modeled groundwater flow paths demonstrating the capture of groundwater within targeted remediation zones, as well as treated water injected into upland areas, were presented.

Groundwater will be extracted from extraction wells installed in all the alluvial areas and the WU-PBA area, and from sumps installed in extraction trenches constructed in the BA1-A, 1206-NORTH, and WU-1348 areas. Groundwater extracted from the WAA and WUA remediation areas will be routed to the Western Area Treatment Facility (WATF) for the removal of both uranium and nitrate prior to injection and discharge. The nominal WATF treatment capacity is approximately 250 gallons per minute (gpm). Groundwater recovered from all BA1 remediation areas will be routed to the BA1 treatment facility for uranium removal only; uranium is the only COC in BA1. The nominal capacity of this treatment system is approximately 100 gpm.

Photos depicting the construction of Extraction Trench GETR-BA1-01, using a biopolymer slurry to maintain an open trench in the unconsolidated transition zone deposits, were included in the presentation, as were photos depicting the construction of Injection Trenches GWI-UP1-01 and GWI-UP2-01. Photos depicting typical well head completions, well field utility installations, and control systems were also presented.

The excavation of sediment from the 1206 drainage channel, and the installation of a French-Drain-like feature consisting of perforated pipe and gravel backfill, to remediate the 1206

drainage channel and accelerate the delivery of water from the WU-BA3 area to Extraction Trench GETR-WAA-02 was presented using a series of figures and drawings.

Control systems will provide for automated operation of groundwater extraction pumps and continuous monitoring of groundwater extraction flows, pressures, groundwater levels, and pump motor status. Control systems will provide for automated operation of treated water injection systems, including pumps and automated valves. Continuous monitoring of injection system flows, pressures, tank levels, valve status, and pump motor status will be provided along with the monitoring of flows, pressures, groundwater levels, and valve status associated with individual injection wells. The groundwater extraction and treated water injection control systems will also provide for automated adjustment and shutdown of individual systems and wells/sumps based on monitored parameters.

Manual sampling and gauging of monitor wells will be performed throughout remediation operations to demonstrate hydraulic capture as well as progress toward cleanup goals. The locations of in-process monitoring wells were included in the slide presentation.

In response to concerns expressed by the NRC related to the potential development of stagnation zones under steady state groundwater pumping conditions, particle tracking model output diagrams depicting groundwater flow patterns in alluvial aquifers under alternating pumping scenarios were presented. The model output diagrams demonstrated that stagnation zones can be addressed through alternating pumping schemes.

Another concern expressed by the NRC was the potential that groundwater flushed from WUA remediation areas may not be captured by groundwater extraction wells installed in the WAA-BLUFF area. The presentation included a slide depicting the use of groundwater elevation data collected from alluvial monitor wells located north of the WAA-BLUFF extraction wells, and from monitor wells located between WAA-BLUFF extraction wells, to confirm hydraulic capture of injection-influenced discharge from upland areas to the alluvial material.

Groundwater Treatment Systems – Presentation #3

The WATF will contain the following processing systems:

- Two treatment systems to remove uranium from groundwater
- One spent resin processing system
- One treatment system to remove nitrate from groundwater
- One biomass processing system

Treatment for uranium will be by ion exchange. In each train, groundwater will flow through lead, lag, and polishing vessels, yielding treated water that contains uranium concentrations which should be undetectable. Data generated by laboratory analysis of influent and effluent from each resin vessel in each train will be evaluated to determine when the lead vessel should be exchanged. Each time a lead vessel is removed, valves will re-route the groundwater such that the lag vessel becomes the lead vessel, the polishing vessel becomes the lag vessel, and the former lead vessel, now filled with fresh resin, becomes the polishing vessel.

Treatment for nitrate will be by biodenitrification. During the treatment process, nitrate will be reduced to nitrogen (N_2) gas in bioreactors inoculated with denitrifying bacteria. The bioreactors

will be supplied with a food source for the bacteria; nitrogen gas generated by the process will be released to the atmosphere.

Operation of individual uranium and nitrate treatment units will be discontinued when the influent concentration for a COC (i.e., uranium or nitrate) falls below the corresponding MCL. If a treatment train includes both uranium and nitrate treatment units and the MCL has been achieved for only one COC, the unneeded unit will be by-passed, and operation of the other unit will continue.

The BA1 treatment system will contain one treatment systems to remove uranium from groundwater. When a resin vessel becomes "spent, requiring replacement, the spent resin vessel will be transported to the WATF for processing, and a new vessel containing fresh resin will be transported from the WATF to the BA1 treatment facility for installation.

A drawing of the layout of the exterior of the WATF showed the locations of the electrical transformer, the acid tank used for uranium treatment, the influent and effluent tanks, the spent resin storage facility, and the location of the WATF building, which houses all of the western area treatment and waste processing systems. A second drawing of the interior of the WATF building showed the locations of the office facilities, the ion exchange skids, the resin processing system, the biodenitrification system, and the biomass processing system. It was noted that because once the uranium has been removed from the groundwater, it is delivered to the biodenitrification system through a wall across the building. This will preserve the status of the southern third of the building as a radiologically unimpacted area; this will be a benefit when planning a final status survey for the WATF building.

An isometric view of the ion exchange skid was presented, showing the lead, lag, and polishing vessels in sequence. It was noted that the ion exchange skid will be totally enclosed to prevent the inadvertent spraying of water should a leak develop.

Spent resin will be sluiced out of the resin vessel into a scrolling centrifuge, which will remove most of the water prior to sending it into a ribbon blender. An inorganic absorbent will be added to the resin in the ribbon blender, and after thoroughly blending the mixture, it will be poured into 55-gallon drums. The entire system will be contained, and the waste will be moist until it has been mixed with sufficient absorbent to absorb all free liquid.

In-process monitoring of the ion exchange system includes of two components: in-line monitoring and collection of samples for lab analysis. In-line monitoring includes continuous monitoring of the water level in influent and effluent tanks, influent and post-acid-addition pH, and flowrate. Samples will be periodically collected for analysis for pH and uranium.

Drums of spent resin will be transferred to a secure storage facility until sufficient waste has been characterized and stored to constitute a complete shipment. The storage facility will be surrounded by jersey barriers, with removable bollards at the overhead door which provides access to the palleted drums of spent resin and other material that has been set aside for disposal as LLRW.

The biodenitrification system will consist of a buffer tank, which will contain the effluent from the uranium treatment systems. Initially, three bioreactor tanks will be inoculated with biomass using an external source of nitrogen. Once the biomass is established, incoming groundwater will provide the nitrogen needed to sustain the biomass. Methanol will be added as food for the

biomass. After biodenitrification is complete, the water will flow to a thickener, where suspended biomass will be removed for processing. As nitrate concentrations decline, bioreactors will be shut down one at a time until the concentration of nitrate in the influent is below the discharge limit.

Flocculant will be added at the thickener, and a drum filter, followed by a filter press, will remove the biomass from the water stream, which will be re-routed to the buffer tank. The biomass collected by the filter press will be stored in a rolloff bin until sufficient mass has accumulated to ship it for disposal.

Like the ion exchange systems, both in-line monitoring and collection of samples for lab analysis will provide in-process monitoring to maintain effective removal of nitrogen from the groundwater.

The BA1 treatment facility is very different from the WATF. Unlike the WATF, there will be no building erected in this area. Influent and effluent tanks, the acid tank (for the ion exchange system), and two enclosures (one for the ion exchange skid and one for the injection of treated water) will be installed on a concrete slab. The layout of the BA1 treatment facility was presented, along with an isometric view of the containerized ion exchange skid.

Radiation Protection – Presentation #4

Revision 4 of the Cimarron Radiation Protection Plan (RPP) was submitted as an appendix to the DP. Personnel working at the Cimarron Site are performing work in accordance with Revision 3.1. Revision 3.2 is being finalized to clarify the implementation of radiation protection (RO) requirements for Radioactive Materials Areas. The changes to Revision 3.1 reflected in Revision 3.2 will be made in accordance with license condition 27(e). When the NRC approves the DP, they will be approving Revision 4 (as revised in response to the requests for supplemental information and potential RAIs). Subsequent references to "the RPP" will pertain to Revision 4 as submitted with the DP.

In the RPP currently initiates air sampling at 10% of the derived air concentration (DAC). This will be changed to 1% as noted in the RFI. Neither 10% nor 1% of the DAC are anticipated to be realized during proposed operations. Consequently, there should be no need for a respiratory protection program. Determination of internal exposure will be triggered at 2% of the annual limit on intake (ALI), but it is anticipated this will be based on air sampling results rather than bioassay samples. Although no exposure that would trigger air monitoring is anticipated, the RPP commits to performing air sampling throughout the first three resin exchanges to determine what the actual potential exposure may be.

Determination of external exposure will be triggered as prescribed in 10 CFR Part 20. It is anticipated that area dosimeters will be employed to demonstrate compliance. A prospective evaluation of potential exposure from a loaded resin bed has been performed, and external exposures are anticipated to be well below 10 CFR Part 20 triggers.

Contamination control is provided for by maintaining enclosed resin that has accumulated uranium from the processing of groundwater, through the removal of spent resin from resin vessels, and the mixing and packaging of spent resin for disposal. Ion exchange systems are enclosed and provide sufficient containment to prevent contaminated water from spraying outside the ion exchange skid in the case of a leak.

The description of the instrument program will be expanded to include more information on the instruments that will be used, their sensitivity, etc.

The RPP provides for periodic audits and inspections and defers recordkeeping to the requirements of the Quality Assurance Program Plan (QAPP). This section will be expanded upon in response to the RFIs.

Based on very conservative assumptions regarding the concentration of uranium in groundwater, the potential intake for spent resin handling is less than 0.1% of the ALI. The calculations that formed the basis for this determination will be provided with the response to the RFIs.

In response to RAIs from the review of the 2015 decommissioning plan, two submittals addressing the potential for criticality were submitted to NRC, and NRC concurred that a criticality incident is not credible. Consequently, nuclear criticality monitoring will not be necessary. Nevertheless, all personnel whose work involves either the ion exchange systems or the resin processing system will receive radiation worker training, as well as training on standard operating procedures that will be developed to perform those functions.

The RPP includes a nuclear material control and accountability (MC&A) program that is intended to demonstrate compliance with the possession limits that were proposed in Section 6 of the DP. Those include a 1,200-gram limit for U-235 for all uranium that is in-process (i.e., from the wells through spent resin processing); this excludes U-235 in fissile excepted material stored in the secure storage area. NRC indicated that ***some*** possession limit should apply to all licensed material on site, so a 0.5 effective kilogram possession limit for all uranium site-wide was proposed in Section 6 of the DP. NRC requested additional information on the QA/QC requirements for the analysis of samples for the MC&A program; this information will be provided in responses to RFIs.

Treated Water Discharge and Injection – Presentation 5

A portion of the groundwater extracted and treated in the western areas will be injected into Sandstone A via wells installed in injection trenches in the WU-UP1, WU-UP2, and WU-BA3 Areas, and into Sandstone B via two injection wells installed in the WU-UP2 area. A portion of the groundwater extracted and treated in BA1 will be injected into Sandstone B via sumps installed in two injection trenches located in BA1-A. Injection will be by gravity flow and controlled by manifold systems equipped with automated valves. Injection systems will maintain targeted water levels monitored by pressure transducers installed in each injection well. This will induce sustained heads in the fractured sandstone units to drive impacted groundwater toward extraction trenches and/or wells.

The locations of injection components in BA1 and the western areas were presented, along with particle tracking output diagrams demonstrating that downgradient groundwater extraction components will capture the injected fluid, as well as the groundwater that is driven downgradient by the injection of treated water.

Injection will be performed in accordance with the requirements of the DEQ Underground Injection Control (UIC) program. Because these injection components are regulated as "Class V" injection wells, a permit will not be required; however, injected water will be reported to DEQ on a monthly basis. A sample UIC monthly report for water injected during the 2017-2018 pilot test was shown.

All treated water not injected for remediation will be discharged to the Cimarron River. WATF discharges will be routed to Outfall 001 BA1 Treatment Facility discharges will be routed to Outfall 002. The locations of these two outfalls were presented on project site plans. Photos depicting a typical discharge line and headwall structure constructed for another project were also presented.

All discharges will comply with Oklahoma Pollution Discharge Eliminations System (OPDES) permit OK0100510. The average monthly concentration of permit parameters will be reported on a monthly basis; a typical discharge monitoring report for the Cimarron site was shown.

Pre-Construction and Construction Schedules – Presentation #6

Figure 9-1 from the DP, presenting the pre-construction schedule was revised based on information provided by NRC regarding the process of DP review and approval. This schedule covers the time between submittal of the DP and the mobilization of construction contractors. The schedule shows times of relative inactivity, as certain aspects of the work required to finalize design drawings and prepare proposed budgets for construction are dependent upon reviews or approvals by NRC.

The primary categories of activities are:

1. Prepare 90% design drawings and specifications.
2. Prepare requests for +/- 10% bids, obtain bids, and select contractors.
3. Prepare a proposed budget for 2020 (including construction costs?).
4. Contract for construction.
5. Perform vertical profiling for uranium at extraction well locations and install extraction and injection wells and monitor wells.
6. Abandonment of select monitoring wells no longer useful for characterization or in-process groundwater monitoring.

If work described in Categories 5 and 6 above can be performed in 2019, this will expedite the schedule for full-scale construction. NRC informed EPM that which characterization work can be performed prior to DP approval, construction of decommissioning components cannot be performed until the DP is approved. EPM committed to provide NRC a letter requesting approval for only those portions of these activities that would be categorized as characterization.

Figures showing the locations of monitor wells proposed for abandonment in the western areas were presented, and the rationale for abandoning those wells was described.

A drawing showing the results of vertical profiling of uranium concentrations in groundwater was presented to show how data gathered by vertical profiling is needed to complete the 90% design of extraction wells and to specify the locations of extraction pump intakes prior to contracting for construction.

Schedules for construction were identified as “Field” construction and “Facilities” construction. “Field” construction activities were summarized in the following categories:

1. Construction of slurry trenches in transition zones in the 1206-NORTH and BA1-A areas.

2. Construction of injection and extraction trenches in sandstone units in WU areas.
3. Installing utilities, instrumentation, and piping in trenches and making connections.
4. Conducting remediation activities in the 1206 Drainage.
5. Performing the necessary civil construction to prepare for construction of the WATF and the BA1 treatment facilities.

"Facilities" construction activities were summarized in the following categories:

1. Construction of the WATF.
2. Construction of the BA1 treatment facility.
3. Installation of groundwater treatment equipment in both treatment facilities.
4. Providing water and electrical service and installing communications.
5. Startup and commissioning of treatment systems.

The entire construction schedule is estimated to require approximately one year, including 30 days of weather-related delays.

Remediation Duration and Cost – Presentation #7

Remediation Duration Estimation Process

Step 1 in estimating the duration of remediation is to define the lateral target area for each remediation area. This is done by combining the area of COC MCL exceedance, based on isopleth maps generated using statistically-derived representative COC concentrations, with the zone of hydraulic influence for each remediation area, as shown on particle tracking model output diagrams.

Once the remediation target area is determined, Step 2 is completed by estimating the pore volume for each remediation area. To provide an example of the process, a uranium isopleth map, particle tracking model output diagram, and combined overlay map were shown for the WAA U>DCGL area were presented. The pore volume calculation for the WAA U>DCGL, including saturated thickness and effective porosity for this area, were then presented.

Step 3 is in the remediation duration estimation process is the determination of the initial COC groundwater concentration to be used in the duration estimate calculation. For each remediation area either the highest representative concentration for any monitor well within the area, or the area-weighted average concentrations, whichever is higher, was used as the initial COC concentration. To provide an example of this step of the process, the highest representative uranium groundwater concentration for the WAA U>DCGL area, 178 µg/L at Monitor Well T-62, was shown.

Step 4 in the remediation duration estimation process is the calculation of the estimated remediation duration. In this step, the number of pore volumes required to reduce the initial COC concentrations for a given remediation area to the NRC and DEQ cleanup criteria are calculated using a first-order kinetic sorption equation. The distribution coefficient for each area/contaminant is the primary factor influencing the number of pore volumes that must be removed to reduce the ***maximum*** concentration of each COC to less than the NRC and DEQ

criteria. The number of pore volumes, multiplied by the pore volume, divided by the extraction or injection rate, yields the time required to achieve the NRC and DEQ criteria for each area. To provide an example of this step of the process, the calculated number of pore volumes, extraction flow rate, and remediation time required to achieve the NRC cleanup criterion were presented for the WAA U>DCGL area.

Water Treatment Duration Estimation Process

The operational duration for both the WATF and the BA1 Treatment System was determined by estimating the time required for the influent COC concentrations in the combined influent to decline below the respective MCLs. Once influent COC concentrations are below the MCL, groundwater can be discharged and injected without treatment. However, for the WATF, groundwater must be pretreated for uranium removal prior to nitrate treatment, regardless of the influent concentration, to prevent the accumulation of uranium in the biomass generated by the nitrate treatment system.

Step 1 in the water treatment duration estimation process Charts showing the remediation duration and treatment duration for various areas in BA1 and the western areas were presented. The basis for continuing treatment after NRC and/or State Criteria are met, or for terminating remediation were discussed for several areas.

The influent uranium concentration decay curve for BA1 remediation areas and the combined BA1 Treatment System influent was presented. This chart showed a slight increase in BA1 Treatment System influent uranium concentration as extraction wells in Area BA1-C were changed or shut down. Influent uranium and nitrate concentration decay curves for the western remediation areas and combined WATF influent were also presented. These charts showed an increase in influent concentrations (a significant increase in the case of nitrate) when groundwater from the WUA areas, displaced by treated water injection, arrives at the extraction wells located in the WAA-BLUFF area.

In-Process Groundwater Monitoring

Depth to water (DTW) will be continuously measured in all extraction and injection wells and sumps. DTW will be measured in all in-process monitoring wells daily for the first week, then weekly for a month, then monthly. Groundwater samples will be collected for laboratory analysis from all in-process monitoring wells on a monthly basis.

The data obtained will be used to optimize the extraction of uranium by adjusting flows as needed, to monitor the progress of groundwater remediation, and to determine when groundwater treatment can be discontinued in discrete areas.

Post-Decommissioning Activities – Presentation 8

Post-Decommissioning Schedule

Based on the revised pre-construction and remediation schedules provided in the previous presentation, groundwater remediation is projected to end at the end of the 1st quarter of 2034. Twelve quarters of post-remediation monitoring will extend through the 1st quarter of 2037.

It is believed that by the time the monitor well yielding the maximum concentration of uranium complies with the NRC Criterion, the vast majority of in-process monitoring wells would have yielded uranium concentrations that are less than the NRC Criterion for 12 calendar quarters. Consequently, only those monitor wells that are located near extraction components were proposed to function as post-remediation monitoring locations. Figures showing the locations of in-process monitoring wells and post-remediation monitoring locations were presented for both the western areas and BA1.

Final Status Survey

Because by that time the requirements for a final status survey should be evident, the development and approval of a plan for the performance of a final status survey is scheduled to occur during the last four quarters of post-remediation monitoring.

Figures showing the proposed licensed and controlled areas were presented. Excluding Subarea F, the licensee has submitted final status survey reports, and NRC has performed confirmatory surveys, which demonstrate that the soil complies with the NRC Criteria for unrestricted release. In fact, excluding Subarea F, all these areas have been released from the license, and will only be brought back under license to address licensed material in groundwater. Throughout construction and operation of groundwater remediation infrastructure and water treatment facilities, EOM has committed to survey any subsurface material that is brought to the surface. If any material is identified that exceeds unrestricted release criteria, it will be removed and shipped for disposal at a licensed facility. At this time, it is assumed that finals status surveys will require, at most, survey as unimpacted areas.

The performance and reporting of the final status survey will not begin until completion of post-remediation monitoring, to ensure that no further operation of the facilities will be needed. A residual dose model, which will be expected to demonstrate that the residual dose to the maximally exposed individual will be less than 25 mrem/yr, will be prepared during the preparation of the final status survey report.

Because the influent tanks and ion exchange skids provided secondary containment of potential leaks or releases, and the resin processing system keeps licensed material contained throughout the processing of spent resin, it is assumed that these areas, as well as those portions of the office facility in which licensed material (e.g., samples to be packaged and shipped for laboratory analysis) will be surveyed as potentially impacted areas. It is assumed at this time that the concrete slabs, portions of the office area, and the separate biodenitrification and biomass processing areas will be surveyed as unimpacted areas.

Demobilization of water treatment facilities, spent resin processing equipment, and other facilities and/or equipment that will not remain on site will follow completion of the final status survey report and the residual dose model.

Section 8.9.2 of the DP, “Uranium Treatment Units” committed to analyze what resin remains in process vessels during demobilization, proposing to consider resin containing less than 2 pCi/g above background to be solid waste rather than LLRW. Proposed revisions to Section 8.9.2, clarifying that resin containing detectable concentration of uranium above the background for resin will be disposed of as LLRW, will be provided in addition to the responses to NRC RFIs.

Drawings of the WATF and the BA1 treatment facility were presented, identifying in red the equipment that will be decontaminated and demobilized prior to final status survey, and in blue the equipment that will remain on site. It is possible that in some areas, groundwater remediation can continue by extracting and discharging groundwater without treatment, as long as the groundwater continues to comply with OPDES discharge permit limits.

An application for license termination will be prepared at the same time the final status survey report is being prepared. The post-decommissioning schedule assumes a 9-month period for agency review, public notice, and license termination. Based on this schedule, license termination will occur at the end of the 3rd quarter of 2038.

Assumptions regarding the preparation of a residual dose model were presented. One of the assumptions was that the dose from property that had been released would not be included in the residual dose model. NRC commented that the dose model would have to include that dose. This could be problematic because data obtained as far back as the 1980s may not be easily incorporated into the dose model to assign dose to people in those areas.

Potential Cost Savings

The decommissioning cost estimate (DCE) presented in the DP indicated that available funding is sufficient to achieve license termination – unless the 25% contingency recommended in NUREG-1757, *Consolidated Decommissioning Guidance*, is added to the DCE. Available funding would not be sufficient if the contingency is concluded. Because NRC has no Superfund-like program that could continue decommissioning if Trust finds are exhausted, there would be no means to achieve license termination, and no licensee to maintain control of the site.

Opportunities for cost savings were presented. The most immediate potential cost savings would come from expediting the review and approval process for both the DP and the proposed budget for 2019.

Requests for proposal based on completion of the 90% design and specifications are anticipated to provide +/- 10% bids for construction. A 25% contingency on the current estimated construction cost of $28,500,000 adds $7,125,000 to the DCE for construction. Even if a + 10% bid came in close to the current DCE for construction, elimination of that additional 25% would provide a significant margin of security to show that available funding is sufficient. NRC stated that the "requirement" to add a 25% contingency factor to the DCE in NUREG-1757 should not be considered a requirement. NUREG-1757 is guidance, not a regulatory requirement.

Finally, the DCE presented in the DP is based on an assumption that groundwater remediation would continue in all of the western areas until groundwater in BA1 complies with the NRC Criterion. If in-process groundwater monitoring indicates that groundwater in the BA1-A area is not progressing as assumed, groundwater remediation in the western areas could be terminated. This could save nearly $19,000,000 (including the 25% contingency).

NOTES ON APRIL 5TH DISCUSSIONS

Introduction

The primary purpose of discussions conducted April 5th was to go through the NRC's February 28, 2019 request for information (RFI) so that personnel responsible for providing that information clearly understood what is desired and can provide the information at a level of detail and completeness that future requests for additional information (RAIs) are minimized. This section will briefly summarize the information that will be provided for each RFI, and any consequent issues that arose during the discussions surrounding each RFI.

Groundwater Models

Proposed revisions to Section 2.7.6 of the DP, including additional information on updates to the numerical groundwater flow models and input parameters, and the numerical groundwater model input files in native format, will be provided in the response to this RFI.

Impacted Groundwater

Proposed revisions to the text in Section 3.5 of the DP, including a description of the aquifers targeted for remediation activities, will be provided in the response to this RFI.

Current Extent of Contaminants of Concern in Groundwater

The following information will be provided in the response to this RFI:

- Proposed revisions to Section 3.5.3 of the DP, describing the magnitude and extent of uranium activity concentrations in groundwater, as presented in Figures 3-3 and 3-4.
- Proposed additions to Section 3.5.3 of the DP describing the maximum and average uranium concentrations for each aquifer within the Western Area and Burial Area 1 (BA1), and the maximum and average uranium concentrations for each remediation area exceeding the NRC remediation criterion.
- Proposed revisions to Section 3.5.3 of the DP, including the estimated mass of uranium that will be recovered from each remediation "sub-area" exceeding the NRC remediation criterion, from the time remediation begins until the NRC remediation criterion is achieved. It is understood that this mass of uranium recovered from each remediation sub-area is less than the total mass of uranium that will be recovered, because uranium will also be recovered from areas in which the concentration of uranium is below the NRC Criterion, but above the State Criterion.

Land Use

Regarding the trigger levels for air sampling, Section 6.1 of the RPP states that air sampling during spent ion exchange resin handling activities will be performed. This is further clarified in Section 10.6, which acknowledges that general area air sampling will be performed throughout the resin unloading and packaging process for at least the first three resin exchanges. Following analysis of the air sample results, the Radiation Safety Officer will determine the need for additional air sampling. Additional air sampling and individual monitoring would be considered if air sampling results indicate a potential for an individual to receive an intake of 100 mrem

CEDE in a year. Proposed revisions to Section 11.2 of the Decommissioning Plan regarding the air sampling program and trigger values will be provided in the response to this RFI.

In-Process Monitoring

Tc-99 is present in and downgradient of the UP1 and UP2 remediation areas. It is not known whether the ion exchange resin will remove Tc-99 from the groundwater. If Tc-99 is not removed by ion exchange it may be retained in the biomass generated by the biodenitrification process, or it may pass through the treatment systems and be present in the effluent. A portion of the effluent will be injected into upland areas under the DEQ's Underground Injection Control (UIC) program and the remainder will be discharged to the Cimarron River in accordance with Discharge Permit OK0100510.

Proposed additions to Section 8.6 of the DP, addressing the presence of Tc-99 in the influent to the WATF will be provided in the response to this RFI. Regarding compliance with the effluent standards of 10 CFR 20.2001, it will be assumed that the concentration of Tc-99 in the influent is the same as the Tc-99 in water discharged to the Cimarron River. Although it is anticipated that uranium will not be detected in the WATF effluent, a uranium concentration of 5 pCi/L will be assumed to be present in the effluent for the purposes of the unity rule calculation required per 10 CFR 20.2001. A calculation of COC concentrations in the effluent, applying the unity rule, will show that the effluent limits of 10 CFR 20.2001 will not be exceeded.

EPM will conduct discussions with DEQ personnel to address the following issues:

- EPM will advise DEQ Water Quality Division personnel of the potential for low concentrations of Tc-99 (well below the EPA drinking water standard) to be present in the WATF discharge. EPM will submit the documentation and supporting information deemed necessary by DEQ, including an application for a permit modification, to address issues associated with the potential presence of Tc-99 in the WATF effluent.
- EPM will advise DEQ UIC program personnel of the potential for low concentrations of Tc-99 (well below the EPA drinking water standard) to be present in injected groundwater. Because the injection wells and trenches are considered "Class V" injection wells, and the concentration of Tc-99 is well below the drinking water standard, this notification is anticipated to be the only required.
- EPM will communicate with DEQ regarding the potential for low concentrations of Tc-99 to be present in the biomass. Discussions will focus on the disposal requirements or limitations that would apply if the biomass contains detectable concentrations of Tc-99.

Radiation Protection Program (Section 11 of the DP)

There is one reference to the RPP as being in Appendix O; it is actually included in the DP as Appendix N. A revision to Section 11 of the DP correcting the citation to Appendix N will be provided in the response to this RFI.

Air Sampling Program

How Airborne Radioactivity Levels are Estimated

Following the methodology specified in NUREG-1400, the potential intake from handling the amount of uranium anticipated for spent resin was evaluated and determined to be less than 0.1% of the ALI for uranium.

Concentrations of Tc-99 from processing recycled uranium are significantly less than the NRC Criterion of 3,790 pCi/L, and even at 3,790 pCi/L, the potential intake would be an extremely small fraction of the ALI. The total groundwater processed at this concentration in a year would trigger neither air sampling nor internal monitoring.

Proposed revisions to Section 10.6 of the RPP, regarding the evaluation of potential intake related to the air monitoring program, will be provided in the response to this RFI. The supporting calculation will be included as an appendix to the RPP.

Air Sampling When Airborne Radioactivity Levels May Exceed 1% of the DAC

Air sampling will be performed throughout the resin unloading and packaging process for at least the first three resin exchanges. Following analysis of the air sample results, the Radiation Safety Officer (RSO) will determine the need for additional air sampling. Proposed revisions to the RPP requiring at 1% of the DAC will be provided in the response to this RFI.

Respiratory Protection

Evaluations based on the NUREG-1400 methodology do not support the need for a respiratory protection program. If a respiratory protection program is required, section14.1 of the RPP incorporates a commitment to 10 CFR 20 Subpart H.

Proposed revisions to Section 11.2 of the DP and Section 14 of the RPP, clarifying that the need for a Respiratory Protection Program would be based on a prospective evaluation, will be provided in the response to this RFI. If needed, the program would be implemented based on Regulatory Guide 8.15 and NUREG/CR-0041.

Internal Exposure Determination

Bioassay Sampling if Intake Exceeds 10 Milligrams of Uranium in One Week

Based on the potential intake in a year calculation previously discussed using the NUREG-1400 methodology, the potential worker intake for an entire year is less than 0.04 milligrams from inhalation. Drinking groundwater at the maximum concentrations found onsite could result in an intake of 10 milligrams in a week, but consumption of groundwater is not permitted at the site. A proposed revision to the RPP including the calculation as an appendix to the RPP, will be provided in the response to this RFI.

Determination of Internal Dose to the Embryo/Fetus

Current design evaluations indicate that internal monitoring for declared pregnant workers is not required, so dose to the embryo/fetus is not expected to be performed. If the need to perform

internal monitoring for declared pregnant worker is indicated, dose to the embryo/fetus will be determined based on guidance provided in Regulatory Guide 8.36 and ICRP Publication 88.

Proposed revisions to Section 6.7 of the RPP, indicating that procedures for determining dose to the embryo/fetus will be developed if internal monitoring for declared pregnant workers is required, will be provided in the response to this RFI.

Requirements for how Worker Intakes are Determined

In the absence of a bioassay program, intakes to workers could be determined based on representative air sample results. Intake from air samples will be calculated by multiplying the activity collected on the air filter by the ratio of the worker's breathing rate to air sampler flow rate. Proposed revisions to Section 11.3 of the DP, clarifying that procedures do not exist as they are not required unless a bioassay program is implemented, will be provided in the response to this RFI.

External Exposure Determination

Workers are not likely to be exposed to external dose requiring the need for personnel monitoring. Proposed revisions to the RPP, including an appendix with the supporting calculation, will be provided. Proposed revisions to the DP, clarifying that procedures would be developed to describe the type range, sensitivity, and accuracy of required individual monitoring devices, action levels for worker's external exposure, and the technical bases and actions to be taken when they are exceeded, will be provided in the response to this RFI.

Summation of Internal and External Exposure

Proposed revisions to RPP regarding dose to the embryo/fetus were addressed above.

Contamination and Control Program

Proposed markups of three figures from Appendix K-2 of the DP, showing where restricted areas will initially be located, will be added to Section 8 of the RPP. Further designation of restricted area will be finalized after construction of water treatment facilities prior to operation, and may be further modified based on operational experience.

Instrument Program

Calculation of MDC

Proposed revisions to Section 7.5 of the RPP, including clarification of information related to calculating the MDC, will be provided in the response to this RFI.

Description of Instrument Storage, Calibration, and Maintenance

Portable survey instruments will be stored in the Instrument Room located in the Western Area Treatment Facility. This includes portable instruments for direct measurements and the smear counter(s). No analytical laboratory instrumentation is used at the Site. Laboratory analyses are performed by vendors at off-site laboratories.

The CERT will only replace batteries and probe cables. Instrument calibration and maintenance is performed by a qualified vendor. Instrument operation and use are addressed only in procedures; desk instructions are no longer used for this purpose. Proposed revisions to Section 7.5 of the RPP addressing these issues will be provided in the response to this RFI.

Quality Assurance (QA) Procedures for Laboratory Instrumentation

The CERT does not use laboratory instrumentation and relies on vendors to provide analytical services. Proposed revisions to the RPP, removing references to QA for laboratory instrumentation, will be provided in the response to this RFI.

Table 7.1 of the RPP provides a list of the instruments used for the project. Calibration and maintenance of these instruments will be done by an off-site qualified vendor. Procedures for operation and use of instruments at the site will be provided in the response to this RFI.

Health Physics Audits, Inspections, and Recordkeeping

A general description of annual radiation protection program review required by 10 CFR 20.1101(c) is provided in Section 5.2 of the RPP. The RPP commits to relying on NRC guidance for conducting these reviews, including a specific reference to Appendix L of NUREG-1556, Volume 7. NRC Regional inspections of the Cimarron radiation protection program have confirmed compliance with this requirement.

Section 5.3 of the RPP discusses surveillances, which are observations of activities being performed. Surveillances are performed by or under the direction of the Quality Assurance Coordinator and/or the RSO. Section 5.3 of the RPP, indicating that surveillances are performed once each calendar quarter, will be provided in the response to this RFI.

Section 5.4 provides a discussion on records of audits and surveillances. Proposed revisions to Section 5.4 of the RPP, identifying the minimum information that must be included in audit and surveillance records, will be provided in the response to this RFI.

Environmental Monitoring and Control

The RPP is an operational document that is periodically revised to maintain currency. Currently shown in draft form, Revision 4 will be finalized following acceptance of responses to information requested by the NRC. Proposed revisions to the RPP resulting from these responses will be provided. The final version of RPP, Rev. 4, will be resubmitted to the NRC following completion of NRC review and acceptance of CERT responses. After Revision 4 to the RPP is approved by the NRC, license condition 27(e) will govern future changes to the RPP.

Environmental ALARA Evaluation

Description of ALARA Goals

In addition to specifying compliance with USNRC effluent release limits, CERT will comply with the requirements of the OPDES permit (Appendix H) for uranium discharges to the liquid effluent streams. This effectively serves as an ALARA goal for liquid releases. Proposed revisions to Section 12.1 of the DP, clarifying that the OPDES permit limit serves as the ALARA goal for the site, will be provided in the response to this RFI.

Description of Procedures, Engineering Controls, and Process Controls in the DP

Sections 8.3.2 and 8.3.3 of the DP provide a description of the uranium and biodenitrification systems, respectively. Section 12.3 discusses effluent controls. These discussions provide information on the engineering and process controls being designed into the systems. Only water at concentrations less than the OPDES permit limits for uranium may be released; processed water exceeding these limits will be reprocessed. Revisions to Section 12.2 of the DP, clarifying that processed water exceeding the MCL will be reprocessed, will be provided in the response to this RFI.

Description of Procedures, Engineering Controls, and Process Controls in the RPP

Procedure RP-10 describes in detail the responsibilities and functions of the ALARA Committee. This information is provided in summary form in Section 10.2 of the DP. The ALARA Committee has responsibility to review and approve all aspects of facility operations to assure that ALARA is an essential part of the operations. RP-10 will be provided in the response to this RFI as an Enclosure to provide information supplementing this response.

Effluent Monitoring

Information on Other Nuclides

Maximum concentrations of uranium were included in the DP, but not the isotopic distribution. The expected maximum concentrations of uranium (by isotope) and Tc-99 will be provided in the response to this RFI. Proposed revisions to Sections 8.6 and 12.2 of the DP will be provided in the response to this RFI.

Justification that Sample Ports Provide Representative Samples

In-process sampling of influent, mid-process, and effluent water will be collected from sample ports connected to the tanks or piping carrying the water through the system. Sampling procedures will specify the minimum volume of water that must be purged from sample ports prior to collection of the sample for laboratory analysis, to ensure that samples are representative of in-process water. Proposed revisions to Section 8.6 of the DP will be provided in the response to this RFI.

Description of Environmental Monitoring Recording and Reporting Procedures

Section 15.3 of the RPP states that "Sample collection, preservation, shipping, and analysis shall be conducted in accordance with the site-specific Sampling and Analysis Plan and associated procedures." Procedures will be prepared after completion of the 90% design. Proposed revisions to Sections 8.6, 12.2, and 12.3 of the DP, clarifying that sample collection and analysis, data evaluation, and the recording and reporting of results will be in accordance with procedures, will be provided in the response to this RFI.

Quality Assurance Program for Effluent Monitoring

Section 12.2 of the DP commits to following the guidance of Regulatory Guide 4.15 for the Quality Assurance Program Plan. The Quality Assurance Program Plan (QAPP) – Rev. 4 will be

provided as an Enclosure to the response to RFIs. Section 8 of the QAPP includes s description of the quality assurance program for effluent monitoring.

Effluent Control

Summary of Action Levels and Action Taken if a Limit is Exceeded

This was addressed in our response to the RFI on "Environmental ALARA Evaluation".

Estimates of Doses to the Public from Effluents

Demonstration that the dose limits to the public are met will be based on measurements of effluent streams. Proposed revisions to Section 12.3 of the DP, reflecting the need to demonstrate compliance with the guidance provided in NUREG-1757 Vol. 1 Rev 2, will be provided in the response to this RFI.

Solid Radioactive Waste

Expected Concentrations of Radionuclides Other than U-235 in Resin

The limiting conditions for the disposal of the spent resin (LLRW) are both the concentration and homogeneity of the fissile isotope (U-235) established by transportation regulations for fissile excepted material. The WAC requirements for the potential disposal sites exceed the transportation limits. The concentration of the uranium isotopes in resin will be determined by analysis of the waste to demonstrate compliance with the transportation regulations. The response in "Effluent Monitoring" will provide information on the distribution of the uranium isotopes present depending on uranium enrichment level.

Resin generated in the WATF will be analyzed to determine the concentration of Tc-99. This information will be included in the shipping manifest, demonstrating compliance with the WAC for the radioactive waste disposal site.

Proposed revisions to Section 13.1 of the DP, describing the sampling to demonstrate compliance with WAC requirements, will be provided in the response to this RFI.

Expected Volume and Concentrations for Contaminated Materials

Planned operation will not generate significant volumes of contaminated material. The volume of sampling devices and equipment is expected to be less than 10% to 15% of the volume of packaged spent resin. The concentration of uranium associated with such potentially contaminated materials is expected to be non-detectable; it will be shipped as LLRW not because of the degree of contamination, but because it cannot be practically surveyed for unrestricted release. Proposed revisions to Section 13.4 of the DP, containing additional descriptions of this material, will be provided in the response to this RFI.

Name and Location of the Disposal Facility

EPM has engaged in conversations with both the Energy*Solutions* facility, located near Beatty, NV, and Waste Control Specialists, located near Andrews, TX. Both facilities are licensed to receive any radioactive material which may need to be shipped for disposal. Both facilities

require commitments regarding the timing, quantities, and radiological content of each shipment, and it is not possible to make any such commitments at this time. Proposed revisions to Section 89 of the DP, presenting such information as is currently available, will be provided in the response to this RFI.

Radiation Protection Plan – General Comment

"RSO or Designee" – Qualifications for Designee

The RPP requires individuals to be designated in writing. The RSO designates specific individuals through desk instructions, which are updated at least annually or through email for short duration designations. Proposed revisions to Section 3.0 of the RPP, including the education, health physics training, and specialized knowledge required for RSO designees, will be provided in the response to this RFI.

DAC Values and the Technical Basis for Determining Compliance with 10 CFR Part 20

The DAC for class Y of 2E-11 μCi/mL is used at the site. an individual would need to drink more than 3 liters of groundwater or inhale 250 times the ALI in one week to have an intake of 10 mg. Revisions to Section 10 of the RPP, including potential intake calculations, will be provided in the response to this RFI.

Radionuclide Mixtures and Air Sampling Media

The CERT will use laminated glass type filters for air sampling. Mixtures of radionuclides, internal monitoring, and dose assessment are addressed above. This issue will have been addressed in previously identified RFIs.

List of Airborne Action Levels, Actions Taken when Exceeded, and Technical Bases

This issue will have been addressed in the response to the RFIs on Section 11.1 of the DP, "Air Sampling Program" as described above.

Methodology for Calculating the MDA for Airborne Samples

This issue will have been addressed in the response to the RFIs on Section 11.7 of the RPP, "Instrument Program", as described above.

Area Radiation Monitoring Results

The current area radiation dosimeters are placed in the site office building which will no longer be used when groundwater treatment facilities are constructed. The site office currently has two designated Radioactive Materials Areas. Dosimeter results indicate background levels of radiation; between 20 and 30 mrem deep dose equivalent per calendar quarter. This information will be provided in the response to RFIs.

Summation of Internal and External Exposures

Activities have typically involved groundwater sampling and limited treatability testing and a trenching pilot test. None of these activities resulted in the potential for an individual to require personnel monitoring. Field dose rate measurements consistently measure background exposure

rates less than 15 µR/hr. The highest anticipated dose rate in the vicinity of a uranium treatment train is calculated to be 0.024 mrem/hr. This issue will have been addressed in the response to the RFIs on Section 11.5 of the DP and Section 6.1 of the RPP, "Summation of Internal and External Exposure", as described above.

Facility Radiation Surveys

Release Criteria – Qualifications of a "Qualified Individual"

CERT has implemented a task qualification process for individuals authorized to perform and document radiological surveys. Documented in a desk instruction approved by the RSO, the task qualification documents on-the-job training provided by a qualified instructor designated by the RSO. Revisions to Section 2.0 of the RPP, discussing the task qualification process, will be provided in the response to this RFI.

ADDITIONAL TOPICS

Proposed Redefinition of the Licensed Site

Section 6 of the DP proposed a redefinition of the licensed site. Property that has been shown to be releasable for unrestricted use, and within which the concentration of uranium in groundwater does not exceed license criteria, would no longer be under license. Property that contains groundwater exceeding decommissioning criteria, or within which groundwater exceeding decommissioning criteria is transferred or treated, and property to which access is controlled for radiological purposes (such as spent resin storage) will be under license. Figures 6-1 and 6-2 of the DP illustrated the property that would be licensed, and to which access would be controlled, in the western area of the site and in BA1, respectively.

NRC requested that EPM consider retaining Subareas F, G, and N, under license. Although NRC has stated that Subareas G and N are releasable for unrestricted use, keeping the property represented by those Subareas would result in one contiguous licensed site. It would also mean that spent resin being transferred from the BA1 treatment facility to the WATF would not leave one licensed area, only to enter another licensed area.

EPM expressed concern regarding the cost of a final status survey that may be required if that significant amount of property is retained under license. EPM will consider adding a "corridor" between the BA1 treatment facility and the WATF. EPM may submit a proposed Figure 6-3, illustrate the entire licensed site, if such a "corridor" were included in one contiguous licensed site along with the response to these RFIs.