

NRC – DEQ – EPM Telecon Notes

January 24, 2017

(Red text indicates who will take the next action)

Attendees

Ken Kalman
Lifeng Guo
Gerald Schlapper

Paul Davis
Jordan Caldwell
Torrie Wale
Mike Broderick
David Cates

Jeff Lux
Bill Halliburton
John Hesemann

Administrative Issues

Proposed 2017 Budget – The budget submitted on October 25th was revised based on comments received from NRC and DEQ. Revision 1 was submitted to NRC and DEQ on December 29, 2016. Comments on or approval of this proposed budget is critical. EPM cannot contract for the construction of pilot test trenches, or authorize other work than “ongoing” design work until the 2017 budget is approved. *NRC and DEQ will comment on or approve the revised budget proposal for 2017.*

2016 Year-End and Q4 Financial Report – The financial report for the 4th quarter of 2016, and the year-end financials will be sent to NRC and DEQ near the end of January. *EPM will send the financial report to NRC and DEQ.*

Sale of Southwest Quarter of Section 12 – EPM revised the Purchase and Sale Agreement (Agreement) for the proposed sale of the southwest quarter of Section 12 to Cimarron Holdings LLC, in accordance with agency comments. DEQ has expressed a concern regarding the legal description of the property. NRC wants to see the revised Agreement to review revisions to Section 5. EPM is revising the Agreement to say that the Trustee is not aware of any hazardous or regulated material on the property, and that it is being sold “as is, where is”. *EPM will submit a revised Agreement to NRC and DEQ for comment or approval.*

Trust Account Investment Plan – The Department of Justice notified EPM of changes to the Nevada Trust Agreement that enable the Trustee to invest in other investment vehicles than those provided for in the original Trust Agreement. EPM is evaluating alternative investment vehicles to identify opportunities for low-risk investment vehicles which would provide a greater return (increasing the available funding in the long term). Based on that evaluation, EPM will submit a proposal to the NRC and DEQ to determine if a similar amendment to the Cimarron Trust Agreement should be proposed. *EPM will submit a proposal to NRC and DEQ for feedback.*

Public Information Update – The public information update for the 4th quarter of 2016 was sent to the contact list of people who wanted updates on January 19th. It will be posted to www.certoklahoma.net later this week. *No further action required.*

Invoice for Past NRC fees – NRC is reviewing Trust documents and past unpaid invoices to determine which NRC fees should be included in a fee-recovery invoice. *NRC will inform EPM of its review and send an invoice to recover unpaid fees as provided for by the Trust Agreement.*

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Licensing/Permitting Issues

Subsurface Soil in Subarea F – During meetings conducted in June, NRC noted that, if the area in Subarea F that will remain under license is only a portion of Subarea F, amending the license would in effect release a portion of Subarea F for unrestricted use when NRC has not documented that the area complies with decommissioning criteria. NRC requested that EPM submit subsurface soil data for that portion of Subarea F that would not be under license. EPM sent a report providing both soil and groundwater data for the portion of Subarea F that would not be under license on August 31st. DEQ stated that DEQ has no objections to the letter or report, and that this is a matter between the Licensee and NRC in a letter dated October 4th. NRC review is needed. *NRC will comment by the end of February 2017.*

OPDES permit application modification – DEQ sent a Notice of Deficiency (NOD) on October 4th. The NOD stated that replacement pages reflecting changed flow rates and influent concentrations must be submitted as a modification of the permit application. Revision of groundwater flow models, needed for calculation of influent concentrations, is complete. Revised pages for the OPDES permit application were submitted January 19, 2017. Because the revised influent concentration for fluoride may exceed 4 mg/l, EPM requested that DEQ determine if the calculated discharge limit for fluoride could be greater than the MCL of 4 mg/L based on the reduced discharge flow rate. *DEQ to evaluate permit limit for fluoride based on revised discharge flow rate.*

RAIs – Requests for additional information (RAIs) related to both the environmental assessment and the safety evaluation report are anticipated to be issued by NRC by the end of January. *NRC will issue RAIs.*

Revision of RPP, QAPP, SAP – As Revision 1 of the Decommissioning Plan is prepared, the Radiation Protection Plan, Quality Assurance Program Plan, and Sampling and Analysis Plan are being revised to incorporate the commitments and requirements associated with the decommissioning plan. *EPM will submit each of these documents as attachments to Revision 1 of the Decommissioning Plan.*

Decommissioning Issues

NRC Response on Determination of K_d – During the June meetings, NRC requested a paper presenting the work that has been done to determine the distribution coefficients for various soil types at the Cimarron site. On July 5th, EPM submitted *Distribution Coefficient Determination for the Cimarron Site*. EPM does not believe that additional sampling and analysis for K_d determination is justifiable. DEQ requested clarifications and further information both by e-mail and phone. DEQ concurred that further sampling and analysis is not needed in a letter dated August 31st. NRC has indicated that additional sampling will not be needed. *NRC will address issues related to the distribution coefficient in the RAIs.*

Geotechnical Investigation for Relocation of Western Area Treatment Facility – In August, Burns & McDonnell and Kurion engineers proposed the relocation of the Western Area Treatment Facility. A geotechnical investigation was conducted to obtain the information needed to be able to design the water treatment facilities to relocate the treatment systems to the

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corner of Subarea N southeast of the U-Pond #1 Area. A report on the geotechnical investigation was delivered to EPM on December 22nd. *EPM will use the geotechnical report in the relocation of the Western Area Treatment Facility in Revision 1 of the Decommissioning Plan.*

Revision of Influent Concentrations – Groundwater flow models and particle tracking models were revised to optimize flow rates based on the revised remediation approach. Groundwater data extending back to 2011, and results from the quarterly sampling program, was evaluated to develop maximum (mean plus 2 sigma) anticipated influent concentrations for uranium and nitrate. *EPM will submit a report on the revised groundwater flow models. A paper presenting the determination of maximum influent concentrations will be submitted as an attachment to Revision 1 of the Decommissioning Plan.*

Evaluation of Laboratory Analysis for Enrichment Determination – License SNM-928 stipulates a 1,200 gram possession limit for U-235. Evaluation of enrichment calculations based on historical alpha spectroscopic analysis indicates that, for low concentrations of uranium in groundwater, enrichment values for groundwater extracted from the same well vary widely. EPM collected groundwater samples from several wells and requested analysis of multiple aliquots of each sample by both alpha spectroscopy and ICP/MS. Results indicate that ICP/MS analysis yields more accurate isotopic concentrations, and will be used in sampling and analysis of water and resin for use in the nuclear material control program. *EPM will submit a data summary and paper describing the findings to NRC and DEQ.*

Determination of Vertical Distribution of Uranium in Alluvium – Groundwater samples were collected from geoprobe borings near six existing monitor wells in the Western Alluvial Area and four locations in Burial Area #1. Samples were collected at two foot intervals below the water table to evaluate the vertical distribution of uranium in alluvial material. Results indicate that contamination concentrations are higher in more permeable zones. *EPM will submit a paper on the results to NRC and DEQ, and will determine the zone of highest concentration prior to the installation of groundwater extraction wells in alluvial material.*

Groundwater Assessment Report – Burns & McDonnell has compiled groundwater elevation and COC concentration data from 2001 through the 3rd quarter of 2016. They are evaluating the data to identify increasing or decreasing trends, to evaluate seasonal variations, and to determine if there is a relationship between groundwater elevation (or saturated thickness) and COC concentration. A report on the groundwater evaluation will be submitted to NRC and DEQ by the end of the year. *EPM will submit a report on the groundwater evaluation NRC and DEQ.*

Trenching Pilot Test – Burns & McDonnell is planning the construction and testing of several injection trenches and one extraction trench. The trenches will be constructed as per the design in the decommissioning plan. Three injection trenches be segments of the injection trenches in the design. One injection trench and one extraction trench in BA1 will be the entire trench in the design. Potable water will be delivered to the injection trenches to determine if the estimated injection flow rates should be revised. A pump test will be conducted on the extraction trench to determine if the estimated flow rate that the trench can produce should be revised. The contaminated groundwater produced during the pump test will be retained in frac tanks on site

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until a water treatment system is mobilized. That water will then be treated for uranium removal and discharged or injected as per the Decommissioning Plan. The test results will be incorporated into Revision 1 of the Decommissioning Plan. *A paper presenting the results of the pilot tests will be submitted as an attachment to Revision 1 of the Decommissioning Plan.*

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Attendees

Ken Kalman
Lifeng Guo
Varughese Kurion
Gerald Schlapper
Don Stearns

Paul Davis
Torrie Wale
Mike Broderick

Jeff Lux
Bill Halliburton

Administrative Issues

Proposed 2017 Budget – NRC management feels the budget for which approval was requested is too large, and requested that it be reduced. EPM recommended proposing approval of only that portion of the budget that represents pre-construction work. If it is determined that construction may begin prior to the approval of a budget for 2018, EPM will then request approval of the funding and scope of work that was requested for construction. ***EPM will provide the spreadsheet presenting only pre-construction costs and request that NRC and DEQ approve that much funding at this point in time.***

2016 Year-End and Q4 Financial Report – The financial report for the 4th quarter of 2016, and the year-end financials was sent to NRC and DEQ January 31. ***EPM will send a copy of the financial report to NRC and DEQ Project Managers.***

Sale of Southwest Quarter of Section 12 – EPM's legal counsel revised the Purchase and Sale Agreement (Agreement) to address the fact that the Trustee is not aware of any hazardous or regulated material on the property, and that it is being sold "as is, where is". ***EPM will submit a revised Agreement to NRC and DEQ for comment or approval.***

Trust Account Investment Plan – The Department of Justice notified EPM of changes to the Nevada Trust Agreement that enable the Trustee to invest in other investment vehicles than those provided for in the original Trust Agreement. EPM is evaluating alternative investment vehicles to identify opportunities for low-risk investment vehicles which would provide a greater return (increasing the available funding in the long term). Based on that evaluation, EPM will submit a proposal to the NRC and DEQ to determine if a similar amendment to the Cimarron Trust Agreement should be proposed. ***EPM will submit a proposal to NRC and DEQ for feedback.***

Unclaimed NRC fees – NRC is reviewing Trust documents and past unpaid invoices to determine which NRC fees should be included in a fee-recovery invoice. ***NRC will inform EPM of its review and send an invoice to recover unpaid fees as provided for by the Trust Agreement.***

Archived Records – EPM reviewed the file listings for 593 boxes of files retained by Tronox, and identified 75 boxes which may contain files that should be transferred to the Trust. EPM has completed the review of 24 of those file boxes, and has scanned and filed in the electronic repository those documents those files. ***EPM will continue to review files as time permits.***

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NRC Notification of Tribal Officials – NRC notified Iowa, Osage, Caddo, and Wichita (and affiliated) tribal officials of the submittal of a license amendment request and decommissioning plan in a letter dated February 9, 2017. *No further action is required.*

Licensing/Permitting Issues

Subsurface Soil in Subarea F – During meetings conducted in June, NRC noted that, if the area in Subarea F that will remain under license is only a portion of Subarea F, amending the license would in effect release a portion of Subarea F for unrestricted use when NRC has not documented that the area complies with decommissioning criteria. NRC requested that EPM submit subsurface soil data for that portion of Subarea F that would not be under license. EPM sent a report providing both soil and groundwater data for the portion of Subarea F that would not be under license on August 31st. DEQ stated that DEQ has no objections to the letter or report, and that this is a matter between the Licensee and NRC in a letter dated October 4th. NRC review is needed. *NRC will comment by the end of February 2017.*

OPDES permit application modification – EPM submitted revised pages for the OPDES permit application on January 19, 2017. EPM requested that DEQ determine if the calculated discharge limit for fluoride could be greater than the MCL of 4 mg/L based on the reduced discharge flow rate. DEQ anticipates issuing a draft permit for permittee review within the next couple of weeks. This will trigger a 15-day clock to respond to DEQ. After a 30-day public comment period, the permit will be issued. *DEQ will send EPM the draft permit.*

Missing Dosimetry – Dosimeters for the 4th quarter of 2016 were sent to Landauer the first week of January 2017. When the laboratory results for those dosimeters were not receiving within the normal time, Enercon contacted Landauer and learned that Landauer had not received the dosimeters. An NOD will be generated, and unless the missing dosimeters are found, this dosimetry data will be missing from the Trust's records. *EPM will generate a notice of deficiency (NOD) and take steps to minimize the potential for a recurrence.*

Fire on Site – In January, a Cimarron Holdings employee fired a tracer round at a target and missed the target. The tracer round hit the ground near the location of the former incinerator and started a grass fire. No Trustee personnel were available, so Cimarron Holdings contacted the fire department, and the fire department responded. Because Cimarron Holdings personnel didn't have a key to the gate to access Trust property, they lifted the gates off of the hinges so the fire department could access the site to put out the fire. Thus no licensee personnel were on site when the fire department accessed the site. Cimarron Holdings then informed their employees that firearms are not permitted on Cimarron Holdings property. *EPM will generate an NOD, contract with Cimarron Holdings to provide personnel retained by the Licensee, and train personnel to be able to respond to such emergencies when no Trustee personnel are available. EPM will also modify the Purchase and Sale Agreement for the sale of the Southwest Quarter of Section 12 to prohibit the use of firearms on the property.*

Decommissioning Issues

RAIs – Requests for additional information (RAIs) related to both the environmental assessment and the safety evaluation report were issued by NRC on February 9, 2017. EPM assigned

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responsibility for preparation of responses to RAIs to its contractors, and requested a date by which time they can provide a description of how they will respond. EPM will provide this information to NRC and DEQ and schedule a teleconference to obtain clarification on the response where needed. *EPM will prepare a description of how to respond within the next few weeks, and schedule a teleconference a few days after this submittal.*

Authorization to Proceed – EPM notified NRC and DEQ that some of the responses to RAIs cannot begin until EPM can provide authorization to proceed. EPM needs approval of scope and funding to provide that authorization. *EPM actions are listed above regarding the 2017 budget.*

Groundwater Reports – EPM submitted a report on the update of the groundwater flow models on January 25th. That report includes revised particle flow tracking model output showing the effect of the change to remediation Alternative 2 on groundwater extraction and capture. EPM began quarterly sampling and analysis of groundwater samples from 45 monitor wells in 2016 to determine if there is a relationship between either groundwater elevation or season and contaminant concentration. A report on that evaluation has been drafted and internal review is complete. *EPM will submit the groundwater evaluation report within the next couple of weeks.*

Trenching Pilot Test – Burns & McDonnell is planning the construction and testing of several injection trenches and one extraction trench. The trenches will be constructed as per the design in the decommissioning plan. A request for proposal for the construction of the trenches is nearing completion. Construction and testing of the trenches is expected to extend approximately 8 weeks from mobilization. Test results will be incorporated into Revision 1 of the Decommissioning Plan. *EPM will keep NRC and DEQ informed of the progress of the test.*

NRC – DEQ – EPM Telecon Notes

April 12, 2017

(Red text indicates who will take the next action)

Attendees

Ken Kalman
Varughese Kurion

Paul Davis
Torrie Wale
Mike Broderick
Pam Dizikes

Jeff Lux
Bill Halliburton

Administrative Issues

Proposed 2017 Budget – NRC requested that EPM submit a revised budget, removing all construction-related costs except the pilot test trench construction and testing. EPM submitted that budget on February 24th. After reviewing that cost estimate, NRC requested that EPM submit a new budget proposal reflecting those costs. EPM submitted that revised budget on March 17, 2017. NRC management has approved the budget, and a letter approving the budget should be sent out by April 14th. DEQ indicated that they will also approve the budget. **DEQ and NRC approve the proposed 2017 budget submitted March 17, 2017.**

Sale of Southwest Quarter of Section 12 – EPM submitted a revised Purchase and Sale Agreement (Agreement) to NRC and DEQ on March 9th. The revision addresses the fact that the Trustee is not aware of any hazardous or regulated material on the property, and that it is being sold “as is, where is”. DEQ has already approved the Agreement, and NRC management has approved, but the approval is now in OGC review. **NRC approve the Agreement. EPM will submit proposal to DOJ. Upon DOJ approval, the transaction will be initiated.**

Unclaimed NRC fees – NRC management was briefed on the issue and has determined which past unpaid invoices should be billed; that recommendation has been forwarded to OGC for consideration. Past unpaid invoices which NRC desires to collect will be identified in a fee-recovery invoice. **NRC will inform EPM of its review and send an invoice to recover unpaid fees as provided for by the Trust Agreement.**

Archived Records – EPM reviewed the file listings for 593 boxes of files retained by Tronox, and identified 82 boxes which may contain files that should be transferred to the Trust. EPM has completed the review of 60 of those file boxes, and has scanned and filed in the electronic repository those documents those files which should be transferred to the Trust. **EPM will continue to review files as time permits.**

Licensing/Permitting Issues

Subsurface Soil in Subarea F – NRC requested that EPM submit subsurface soil data for that portion of Subarea F that will not be under license. EPM sent a report providing both soil and groundwater data for the portion of Subarea F that would not be under license on August 31, 2016. NRC stated that the data supports release of that portion of Subarea F, but scanning of subsurface soil excavated during trench construction must be performed to demonstrate that there is no need to retain that portion of Subarea F in the license. **No further action required.**

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OPDES permit application modification – DEQ issued a draft permit for permittee review on February 21, 2017. EPM commented on the draft permit on March 8, 2017. DEQ revised the permit and it is circulating for management review. Once approved by DEQ management, the permit will be uploaded to the DEQ website for public review. EPM will receive a copy and will provide public notice. ***DEQ will send EPM the permit, EPM will place a copy in the Guthrie library and provide public notice.***

NRC Region IV Site Visit – Two of the three Region IV inspectors who are familiar with the NRC license and the Cimarron site, will have retired by the end of April. Don Stearns will bring one senior and one new inspector to the Cimarron site on April 13, 2017. EPM will provide an overview of the license, and an orientation to the Cimarron site. EPM will then provide an overview of the planned decommissioning activities followed by a site tour focusing on the work that will be performed during the upcoming pilot test trench construction and testing. ***EPM will provide the orientation and site overview.***

Decommissioning Issues

Response to RAIs – Requests for additional information (RAIs) related to both the environmental assessment and the safety evaluation report were issued by NRC on February 9, 2017. On March 21, 2017, EPM submitted a preliminary response to RAIs, describing the content of the proposed response and how (e.g., in *Facility Decommissioning Plan – Rev. 1* or in a separate submittal) the response will be submitted. A teleconference was conducted on March 27, 2017 to obtain agency feedback on the proposed responses. On March 31, EPM submitted a letter describing the response to RAIs based on feedback received from NRC and DEQ. ***EPM will submit formal responses to RAIs as described in the March 31 submittal by May 31, 2017.***

2nd Quarter Groundwater Sampling Event – Beginning April 17th, a groundwater sampling event will begin. This involves a total of four activities:

1. Collection of depth to water measurements for all monitor wells site-wide.
2. Collection and analysis of groundwater and surface water samples for the annual environmental monitoring program stipulated in Section 15 of the Radiation Protection Plan (actually a license issue).
3. Collection and analysis of groundwater samples from locations designated for quarterly assessment.
4. Collection and analysis of groundwater samples from more than 160 additional monitor wells to update plumes from the 2015 groundwater assessment results.

EPM will submit the data obtained for the annual environmental monitoring program individually in addition to the data for all 2nd quarter sampling locations. The comprehensive data spreadsheet will be updated, and EPM will submit the revised spreadsheet in a third submittal, all before the end of June.

Groundwater Assessment Report – EPM submitted a report on the relationship between contaminant concentration and either 1) groundwater elevation or 2) time of year (season) on March 6, 2017. The report concluded that there is no relationship between wet or dry time of

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year, or saturated thickness (i.e., groundwater elevation) and contaminant concentration. ***NRC and DEQ will review and either comment on the report or tell EPM they have no comments.***

Vertical Distribution of Uranium in Groundwater in Alluvial Material – In December 2016, a direct-push rig equipped with a hydraulic profiling tool was used to collect groundwater samples from discrete depth intervals at ten locations near existing monitor wells. Groundwater samples were also collected from the monitor wells. Samples were analyzed for uranium by method EPA 200.8 (i.e., ICP-MS). Data indicates that uranium does not disperse evenly across the saturated thickness, but migrates predominantly to and through zones of higher permeability. Burns & McDonnell is preparing a report that describes the work performed, the conclusions reached, and the impact of the assessment on plans for the installation of groundwater extraction wells. ***EPM anticipates submitting the report to NRC and DEQ by the end of April.***

Analytical Methods for Determining Enrichment – In December 2016, large-volume groundwater samples were collected from three existing monitor wells. Groundwater samples were split into aliquots by GEL Laboratory, and analyzed by two methods: EPA 200.8 and HASL 300 (i.e., alpha spectroscopy). The intent was to determine which method will yield greater precision (i.e., less uncertainty) in the determination of U-235 enrichment at low total uranium concentrations. Data indicates that method EPA 200.8 yields much lower uncertainty. Enercon Services is preparing a technical memorandum (tech memo) describing the test and the results, and how the assessment determined which analysis is preferable for nuclear material control and accountability. ***EPM anticipates submitting the technical memorandum to NRC and DEQ by the end of April.***

Conservative Assumption of Enrichment for each Treatment Train – Enercon Services is preparing a tech memo that estimates the U-235 enrichment for uranium in the groundwater coming to each treatment train. Estimates will be at the “mean plus two sigma” values for enrichment, based on data extending through the 2nd quarter of 2017. These conservative values for enrichment will be used for nuclear material control and accountability until data from in-process monitoring samples is obtained. ***EPM anticipates submitting the tech memo to NRC and DEQ in late June or early July.***

Pilot Test Trench Construction and Testing – A design for the construction and testing of three treated water injection trenches and one groundwater extraction trench, and a request for bids to construct the trenches, was prepared in the first quarter of 2017. Injection trenches varying from less than 200 feet in length to over 300 feet in length will be constructed in three areas; potable water will be poured into the trenches, and the rate at which the low-permeability formation can receive the water will be determined. A groundwater extraction trench will be installed in low-permeability material in the eastern portion of the site, and groundwater will be pumped from the trench to determine how much groundwater the formation can provide for extraction. The information from both injection and extraction testing will be used as appropriate to finalize the design for the full-scale groundwater extraction and treated water injection systems that will be included in *Facility Decommissioning Plan – Revision 1*. ***EPM anticipates submitting a report describing the work performed, the data obtained, and the impact of the assessment on Facility Decommissioning Plan – Rev. 1 by the end of July.***

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Relocation of Western Area Treatment Facilities – Kurion has begun revision of the 60% design to relocate the Western Area Treatment Facilities to the southeast of former Uranium Pond #1. EPM plans to relocate its office to this area. *Outside of design revision, no further action is required.*

Pilot Test Status – Burns & McDonnell is going to contract for the construction of pilot test trenches, and will perform injection and extraction testing. Requests for bids were sent to three companies on March 21, 2017. Bids are due April 18, 2017. EPM anticipates the contractor will not be able to mobilize prior to the third week of May. *EPM and Burns & McDonnell will review the bids and select a contractor. Assuming approval of the 2017 budget, Burns & McDonnell will notify the winning bidder, execute the contract, and mobilize as soon as possible after April 18, 2017.*

NRC – DEQ – EPM Telecon Notes

May 17, 2017

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Attendees

Ken Kalman - NRC

Paul Davis - DEQ

Jeff Lux - EPM

Lifeng Guo - NRC

Torrie Wale - DEQ

Bill Halliburton - EPM

Varughese Kurian - NRC

Mike Broderick - DEQ

Bob Nelson - NRC

Administrative Issues

2017 Budget – NRC approved the 2017 budget in a letter dated April 10th. DEQ approved the 2017 budget in a letter dated April 27th. EPM will submit a request for a budget revision (either scope of work or total cost) to cover additional costs associated with the construction and testing of pilot test trenches. More information on the supplement for pilot testing is provided below.

EPM to submit a proposed budget supplement.

Sale of Southwest Quarter of Section 12 – DEQ approved the sale, with concerns related to the legal description of the property, in a letter dated January 11th. NRC approved the sale in a letter dated April 27th. Corrections were made to the legal description, and the legal description closes to within one foot. EPM will submit a request to divest the property to the DOJ. ***EPM will submit a proposal to DOJ. Upon DOJ approval, the transaction will be initiated.***

Unclaimed NRC Fees – NRC management was briefed on the issue; several departments are reviewing the Consent Decree and Environmental Settlement Agreement and the Trust Agreement to determine which past unpaid invoices are billable. Past unpaid invoices which NRC desires to collect will be identified in a fee-recovery invoice. ***NRC will inform EPM of its understanding regarding which unpaid fees are recoverable as per the Environmental Settlement and Trust Agreements. A teleconference with other beneficiaries and parties to the Trust Agreements to discuss fee recovery may be requested by the Trust.***

Archived Records – EPM reviewed the file listings for 593 boxes of files retained by Tronox, and identified 88 boxes which may contain files that should be transferred to the Trust. EPM has completed the review of all but 16 of those file boxes, and has scanned and filed in the electronic repository those documents those files which should be transferred to the Trust. ***EPM will continue to review files as time permits.***

Licensing/Permitting Issues

OPDES Permit – DEQ issued a draft permit for permittee review on February 21, 2017. EPM commented on the draft permit on March 8, 2017. The current revision of the permit is now circulating within DEQ for review. Upon approved by DEQ, the permit will be uploaded to the DEQ website for public review. EPM will receive a copy and will provide public notice. ***DEQ will send EPM the permit, EPM will place a copy in the Guthrie library and provide public notice.***

NRC Region IV Site Visit – Two of the three Region IV inspectors who are familiar with the NRC license and the Cimarron site have retired. Don Stearns brought a senior inspector, Rachel Browder, to the Cimarron site on April 13, 2017. EPM provided an overview of the history of the site, planned decommissioning activities, and a site tour focusing on the work that will be

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performed during the upcoming pilot test trench construction and testing. *No further action is required.*

Decommissioning Issues

Response to RAIs – Requests for additional information (RAIs) related to both the environmental assessment and the safety evaluation report were issued by NRC on February 9, 2017. On March 21, 2017, EPM submitted a preliminary response to RAIs, describing the content of the proposed response and how (e.g., in *Facility Decommissioning Plan – Rev. 1* or in a separate submittal) the response will be submitted. A teleconference was conducted on March 27, 2017 to obtain agency feedback on the proposed responses. On March 31, EPM submitted notes on the teleconference containing feedback received from NRC and DEQ. *EPM will submit formal responses to RAIs.*

2nd Quarter Groundwater Sampling Event – Groundwater sampling began April 17th. This involved a total of four activities:

1. Collection of depth to water measurements for all monitor wells site-wide.
2. Collection and analysis of groundwater and surface water samples for the annual environmental monitoring program stipulated in Section 15 of the Radiation Protection Plan.
3. Collection and analysis of groundwater samples from locations designated for quarterly assessment.
4. Collection and analysis of groundwater samples from more than 160 additional monitor wells to update plumes from the 2015 groundwater assessment results.

EPM received the first laboratory report on May 15th. Data review will begin when all data has been received. *EPM will submit the data obtained for the annual environmental monitoring program individually in addition to the data for all 2nd quarter sampling locations. The comprehensive data spreadsheet will be updated, and EPM will submit the revised spreadsheet in a third submittal, all before the end of June.*

Groundwater Assessment Report – EPM submitted a report on the relationship between contaminant concentration and either 1) groundwater elevation or 2) time of year (season) on March 6, 2017. The report concluded that there is no relationship between wet or dry time of year, or saturated thickness (i.e., groundwater elevation) and contaminant concentration. Quarterly groundwater sampling and analysis continues, and the graphs used to evaluate the data will be updated on an annual basis. *NRC and DEQ will review and either comment on the report or tell EPM they have no comments.*

Vertical Distribution of Uranium in Groundwater in Alluvial Material – In December 2016, a direct-push rig equipped with a hydraulic profiling tool was used to collect groundwater samples from discrete depth intervals at ten locations near existing monitor wells. Groundwater samples were also collected from the monitor wells. Samples were analyzed for uranium by method EPA 200.8 (i.e., ICP-MS). Data indicates that uranium does not disperse evenly across the saturated thickness, but migrates predominantly to and through zones of higher permeability. Burns &

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McDonnell has completed a report that describes the work performed, the conclusions reached, and the impact of the assessment on plans for the installation of groundwater extraction wells.

EPM will submit the report to NRC and DEQ upon completion.

Analytical Methods for Determining Enrichment – In December 2016, large-volume groundwater samples were collected from three existing monitor wells. Groundwater samples were split into aliquots by GEL Laboratory, and analyzed by two methods: EPA 200.8 and HASL 300 (i.e., alpha spectroscopy). The intent was to determine which method will yield greater precision (i.e., less uncertainty) in the determination of U-235 enrichment at low total uranium concentrations. Data indicates that method EPA 200.8 yields much lower uncertainty. Enercon Services prepared a technical memorandum (tech memo) describing the test and the results, and how the assessment determined which analysis is preferable for nuclear material control and accountability. EPM submitted the tech memo on May 4th. *NRC and DEQ will review and either comment on the report or tell EPM they have no comments.*

Conservative Assumption of Enrichment for each Treatment Train – Enercon Services is preparing a tech memo that estimates the U-235 enrichment for uranium in the groundwater coming to each treatment train. Estimates will be at the “mean plus two sigma” values for enrichment, based on data extending through the 2nd quarter of 2017. These conservative values for enrichment will be used for nuclear material control and accountability until data from in-process monitoring samples is obtained. *EPM anticipates submitting the tech memo to NRC and DEQ in late June or early July.*

Relocation of Western Area Treatment Facilities – Kurion prepared sketches of alternative layouts for the influent and effluent tanks, the water treatment building, the storage building, and the nitrate treatment systems. Kurion received feedback on the layout sketches from EPM, Enercon, and Burns & McDonnell. Kurion will proceed with 60% design of the facilities.

Pilot Test Trench Construction and Testing – A design for the construction and testing of three treated water injection trenches and one groundwater extraction trench, and a request for bids to construct the trenches, was prepared in the first quarter of 2017. Injection trenches varying from less than 200 feet in length to over 300 feet in length will be constructed in three areas; potable water will be poured into the trenches, and the rate at which the low-permeability formation can receive the water will be determined. A groundwater extraction trench will be installed in low-permeability material in the eastern portion of the site (BA1), and groundwater will be pumped from the trench to determine how much groundwater the formation can provide for extraction. The information from both injection and extraction testing will be used as appropriate to finalize the design for the full-scale groundwater extraction and treated water injection systems that will be included in *Facility Decommissioning Plan – Revision 1*. Bids were received on April 18, and all bids were significantly higher than the budgeted amount. Additional funding for the budget is needed to cover the subcontractor’s cost, plus the additional cost of support by both Burns & McDonnell and Enercon. An alternative to increased funding may be to defer a portion of the 2017 scope of work (e.g., most of the 90% design) until 2018 so that the funding that is already approved covers the cost of the pilot test. The process of addressing this increased cost will delay the submittal of *Facility Decommissioning Plan – Rev 1*. *EPM will submit a letter*

NRC – DEQ – EPM Telecon Notes

May 17, 2017

(Red text indicates who will take the next action)

requesting approval of an adjustment to the scope of work or the total funding for 2017 to cover the cost of the pilot test. Upon approval of the budget supplement the contract will be executed and the pilot tests will be performed as soon as possible.

Next Teleconference

The next teleconference was scheduled for Wednesday, June 21st, at 1:00 Central Time, 2:00 Eastern Time. *EPM will send a meeting invitation and will send a draft agenda prior to the teleconference.*

NRC – DEQ – EPM Telecon Notes

June 28, 2017

(Red text indicates who will take the next action)

Attendees

Ken Kalman

Paul Davis

Bill Halliburton

Lifeng Guo

Mike Broderick

Varughese Kurian

Note: Dates within these notes include the year only if prior to 2017.

Administrative Issues

2017 Budget – NRC approved the 2017 budget in a letter dated April 10. DEQ approved the 2017 budget in a letter dated April 27. On May 23, EPM submitted a request for a budget revision (revising the scope of work) to provide for the construction and testing of pilot test trenches. NRC requested more detail on the scope of work and the cost and time breakdown for specific activities. EPM submitted additional information on May 31, and again on June 7.

DEQ and NRC asked for additional information regarding the cost difference between the budgeted versus contractor's bid costs for: 1) Mobilization 2) Trench gravel backfill 3) Slurry for BA1 trenches and 4) Overall difference in trench costs. NRC and DEQ are still reviewing the supplemental information provided by EPM.

Sale of Southwest Quarter of Section 12 – DEQ approved the sale, with concerns related to the legal description of the property, in a letter dated January 11. NRC approved the sale in a letter dated April 27. Corrections were made to the legal description, and the legal description closes to within one foot. EPM has received legal review of a draft submittal for DOJ, et. al., and will submit a request to divest the property to the DOJ presently. *EPM will submit a proposal to DOJ. Upon DOJ approval, the transaction will be initiated.*

Unclaimed NRC Fees – NRC management was briefed on the issue; several departments are reviewing the Consent Decree and Environmental Settlement Agreement and the Trust Agreement to determine which past unpaid invoices are billable. Past unpaid invoices which NRC desires to collect will be identified in a fee-recovery invoice. *NRC will inform EPM of its understanding regarding which unpaid fees are recoverable as per the Environmental Settlement and Trust Agreements. A teleconference with other beneficiaries to discuss fee recovery may be requested.*

Archived Records – EPM reviewed the file listings for 593 boxes of files retained by Tronox, and identified 88 boxes which may contain files that should be transferred to the Trust. EPM has completed the review of all but 16 of those file boxes, and has scanned and filed in the electronic repository those documents those files which should be transferred to the Trust. *EPM will continue to review files as time permits.*

Licensing/Permitting Issues

OPDES Permit – DEQ issued a draft permit for permittee review on February 21. EPM commented on the draft permit on March 8. The current revision of the permit is now circulating for review. Upon approved by DEQ, the permit will be uploaded to the DEQ website for public review. EPM will receive a copy and will provide public notice. *DEQ will send EPM the*

June 28, 2017

(Red text indicates who will take the next action)

permit (Paul thought this should be in the mail), and EPM will place a copy in the Guthrie library and provide public notice.

Stormwater Permit – A notice of intent for stormwater discharge from Construction of Land Disturbing Activity was filed on February 9, to authorize stormwater management during the pilot test trench construction. Authorization to discharge in accordance with Stormwater Permit OKR1027644 was issued March 9. The permit expires on September 12. EPM will have to file a new NOI because the pilot test trench construction will not be complete by September 12.

EPM will file a new NOI once NRC and DEQ approve the revision of the budget scope of work.

Floodplain Permit – An application for a Logan County Floodplain Permit was submitted to Logan County on February 6. Permit # LG-17-01 was issued on February 28. *No further action is required.*

Decommissioning Issues

Response to RAIs – Requests for additional information (RAIs) related to both the environmental assessment and the safety evaluation report were issued by NRC on February 9, 2017. EPM submitted a response to RAIs on May 31. *NRC and DEQ will either comment on the responses or notify EPM that they have no comments. Anticipated response from NRC by 7/14/17.*

Remediation Needed for BA2? – EPM observed that Monitor Well 1331 yielded a total uranium concentration that is less than the MCL (30 micrograms per liter). Review of historical data shows that the uranium concentration has been declining since 1989, and has been less than the MCL for four consecutive quarterly sampling events. Monitor Well 1331 is the only Sandstone A monitor well in BA2 that has exceeded the MCL. EPM is preparing a submittal proposing to not include injection trench GWI-WU-02 and the infrastructure associated with it, in *Facility Decommissioning Plan – Rev 1*. *EPM will submit the proposal to NRC and DEQ within a couple of weeks.*

2nd Quarter Groundwater Sampling Event – EPM received the laboratory data May 15 – May 22. Data review is complete. *EPM will submit the annual environmental data and the data for all 2nd quarter sampling locations (2 submittals) via e-mail. The comprehensive data spreadsheet will be updated, and EPM will e-mail the revised spreadsheet.*

Groundwater Assessment Report – EPM submitted a report on the relationship between contaminant concentration and either 1) groundwater elevation or 2) time of year (season) on March 6. The report concluded that there is no relationship between wet or dry time of year, or saturated thickness (i.e., groundwater elevation) and contaminant concentration. Quarterly groundwater sampling and analysis continues, and the graphs used to evaluate the data will be updated on an annual basis. *NRC and DEQ will either comment on the report or notify EPM that they have no comments. NRC will respond by end of July.*

NRC – DEQ – EPM Telecon Notes

June 28, 2017

(Red text indicates who will take the next action)

Vertical Distribution of Uranium in Groundwater in Alluvial Material – Burns & McDonnell has completed a report that describes the work performed, the conclusions reached, and the impact of the assessment on plans for the installation of groundwater extraction wells. EPM submitted the report on May 19. *NRC and DEQ will either comment on the report or notify EPM that they have no comments. NRC is still evaluating and trying to understand why there are high concentrations in the more permeable zones of the aquifer. Response expected by end of July.*

Analytical Methods for Determining Enrichment – Enercon Services prepared a technical memorandum describing the sampling and analysis of groundwater samples, and the evaluation of alpha spectroscopy vs. ICP-MS laboratory results, and conclusions reached regarding which analysis is preferable for nuclear material control and accountability. EPM submitted the technical memorandum on May 4. *NRC and DEQ will either comment on the report or notify EPM that they have no comments. Response expected by 7/14/17.*

Conservative Assumption of Enrichment for each Treatment Train – Enercon Services is preparing a tech memo that estimates the U-235 enrichment for uranium in the groundwater coming to each treatment train. Estimates will be at the “mean plus two sigma” values for enrichment, based on data extending through the 2nd quarter of 2017. These conservative values for enrichment will be used for nuclear material control and accountability until data from in-process monitoring samples is obtained. *EPM will submit the tech memo to NRC and DEQ.*

Relocation of Western Area Treatment Facilities – Kurion prepared sketches of alternative layouts for the influent and effluent tanks, the water treatment building, the storage building, and the nitrate treatment systems. Kurion received feedback on the layout sketches from EPM, Enercon, and Burns & McDonnell. Kurion will proceed with 60% design of the facilities.

Pilot Test Trench Construction and Testing – A design for the construction and testing of three treated water injection trenches and one groundwater extraction trench, and a request for bids to construct the trenches, was prepared in the first quarter of 2017. Injection trenches varying from less than 200 feet in length to over 300 feet in length will be constructed in three areas; potable water will be poured into the trenches, and the rate at which the low-permeability formation can receive the water will be determined. A groundwater extraction trench will be installed in low-permeability material in the eastern portion of the site, and groundwater will be pumped from the trench to determine how much groundwater the formation can provide for extraction. The information from both injection and extraction testing will be used as appropriate to finalize the design for the full-scale groundwater extraction and treated water injection systems that will be included in *Facility Decommissioning Plan – Revision 1*. Bids were received on April 18, and all bids were significantly higher than the budgeted amount. EPM requested approval to revise the scope of work for the 2017 budget to address the increased cost of the pilot test in several submittals as described above. The process of addressing this increased cost will delay the submittal of *Facility Decommissioning Plan – Rev 1*. *NRC and DEQ need to approve the revision to the scope of work. NRC and DEQ requested a conference call to discuss the design and plan for pilot test. Tentative date for call set for 7/7/17 at 1:00pm central time.*

NRC – DEQ – EPM Telecon Notes

June 28, 2017

(Red text indicates who will take the next action)

Next Teleconference

The next teleconference was scheduled for Wednesday, July 19th, at 1:00pm Central Time, 2:00 Eastern Time. ***EPM will send a meeting invitation and will send a draft agenda prior to the teleconference.***

NRC – DEQ – EPM Telecon Notes

July 26, 2017

(Red text indicates who will take the next action)

Attendees

Ken Kalman
Lifeng Guo

Paul Davis
Jordan Caldwell
Torrie Wale
Mike Broderick

Bill Halliburton
Jeff Lux

Administrative Issues

2017 Budget – On May 23, EPM submitted a request for a budget revision (revising the scope of work) to provide for the construction and testing of pilot test trenches. NRC requested more detail on the scope of work and the cost and time breakdown for specific activities. EPM submitted additional information on May 31, June 7, and July 11. NRC stated that they have all the information they need on July 11. Also, it was noted that NRC has already invoiced the Trust for over \$400,000 this year, and \$600,000 was budgeted for federal agency fees. It is likely that the budget for this category will be exceeded. *NRC said an approval letter was already sent. DEQ will send approval shortly. NRC will approval exceeding budgeted amount for federal agency fees to cover 2017 NRC invoices.*

Sale of Southwest Quarter of Section 12 – EPM submitted a request to divest the property to the parties to the Trust on June 30. Responding to a July 25 request for a status update, Rob Yalen (DOJ) stated that approval should be received presently. *Upon DOJ approval, EPM will initiate the transaction.*

Unclaimed NRC Fees – Past unpaid invoices for which NRC desires payment will be identified in a fee-recovery invoice. In a July 19 e-mail, NRC asked if the cost estimate for the revised decommissioning plan will contain changes from that provided in the December 2015 decommissioning plan. On July 24, EPM advised NRC of numerous changes to the decommissioning plan that will result in significant changes to the cost estimate. At this time, it cannot be determined if the cost will increase or decrease. *NRC has determined the amount of fee to be recovered. EPM may request a teleconference to discuss fee recovery.*

Archived Records – EPM reviewed the file listings for 593 boxes of files retained by Tronox, and identified 88 boxes which may contain files that should be transferred to the Trust. EPM has completed the review of all but two of those file boxes, and has scanned and filed in the electronic repository those documents those files which should be transferred to the Trust. *EPM will complete the review of those last files as time permits.*

Center for Disease Control (CDC) Atomic Weapons Employers (AWE) Review – The Cimarron site is listed on the CDC's list of AWE as the "Kerr-McGee Site". On July 19, EPM received a request from Grady Calhoun of the CDC, regarding updating the report on residual radioactivity at AWE sites. The CDC currently lists the site "as having the potential for significant residual contamination." EPM stated that all buildings, materials, impoundments, wastes, and soil has been decommissioned to unrestricted release criteria, and only groundwater remediation remains. CDC requested supporting documentation, which EPM provided on July 25. CDC responded, "That is perfect for our needs." *EPM will review the updated information to determine if the report is revised appropriately.*

July 26, 2017

(Red text indicates who will take the next action)

Licensing/Permitting Issues

OPDES Permit – DEQ issued OPDES permit OK0100510 for public review and comment on June 27. EPM placed electronic copies of the permit and the fact sheet accompanying the permit in the Guthrie and Crescent public libraries. Notice of Issuance was published July 11. EPM sent proof of publication to NRC and DEQ on July 24. *DEQ will finalize and issue the permit after receipt of public comment.*

Stormwater Permit – A notice of intent for stormwater discharge from Construction of Land Disturbing Activity was filed on February 9, to authorize stormwater management during the pilot test trench construction. Authorization to discharge in accordance with Stormwater Permit OKR1027644 was issued March 9. The permit expires on September 12. EPM will have to file a new NOI because the pilot test trench construction will not be complete by September 12.

EPM will file a new NOI after NRC and DEQ approve the revision of the budget scope of work.

Floodplain Permit – An application for a Logan County Floodplain Permit was submitted to Logan County on February 6. Permit # LG-17-01 was issued on February 28. *No further action is required.*

Annual Environmental Monitoring Data – EPM submitted the groundwater data for the 2017 annual environmental monitoring program to NRC and DEQ on June 30. Due to heavy precipitation and the resulting flooding of portions of the floodplain, 2 surface water samples and 9 groundwater samples could not be collected. *No further action is required.*

Decommissioning Issues

Response to RAIs – NRC issued requests for additional information (RAIs) on February 9. EPM submitted a response to RAIs on May 31. EPM discovered that two attachments that should have accompanied that letter were not included in the May 31 submittal, and sent those attachments to NRC and DEQ on July 14. *NRC will respond by 8/18/17.*

2nd Quarter Groundwater Sampling Event – The entire sampling event involved the collection of samples from the 21 annual environmental monitoring wells that could be sampled, 31 quarterly groundwater monitoring wells and an additional 135 monitor wells – totaling 187 monitor wells. The data will be used to update contaminant concentration and uranium enrichment information in the revised decommissioning plan. EPM submitted an Excel file containing all the groundwater data for all wells on June 30. *No further action is required.*

Remediation Needed for BA2? – EPM submitted a proposal to not include injection trench GWI-WU-02 and the infrastructure associated with it, in *Facility Decommissioning Plan – Rev 1* on July 6. *NRC and DEQ will approve or not allow the removal of GWI-WU-02 from the decommissioning plan by 9/15/17.*

NRC – DEQ – EPM Telecon Notes

July 26, 2017

(Red text indicates who will take the next action)

Groundwater Assessment Report – EPM submitted a report on the relationship between contaminant concentration and either 1) groundwater elevation or 2) time of year (season) on March 6. The report concluded that there is no relationship between wet or dry time of year, or saturated thickness (i.e., groundwater elevation) and contaminant concentration. Quarterly groundwater sampling and analysis continues, and the graphs used to evaluate the data will be updated on an annual basis. *NRC and DEQ will either comment on the report or notify EPM that they have no comments by 9/15/17.*

Vertical Distribution of Uranium in Groundwater in Alluvial Material – Burns & McDonnell has completed a report that describes the work performed, the conclusions reached, and the impact of the assessment on plans for the installation of groundwater extraction wells. EPM submitted the report on May 19. *DEQ responded in a letter dated June 28. NRC will respond by 9/15/17.*

Analytical Methods for Determining Enrichment – Enercon Services prepared a technical memorandum describing the sampling and analysis of groundwater samples, and the evaluation of alpha spectroscopy vs. ICP-MS laboratory results, and conclusions reached regarding which analysis is preferable for nuclear material control and accountability. EPM submitted the technical memorandum on May 4. DEQ approves the use of ICP-MS in a letter dated May 23. *NRC will respond by 9/15/17.*

Note: NRC will respond to the four submittals listed above by e-mail, possibly in one e-mail, rather than generate formal letters requiring management approval for each separate submittal.

Conservative Assumption of Enrichment for each Treatment Train – Enercon Services will estimate the U-235 enrichment in the influent to each treatment train at the 95% confidence level. Estimates will be based on isotopic mass concentration data through the 2nd quarter of 2017. Unfortunately, the laboratory electronic data deliverables (EDDs) did not include the uncertainty of the isotopic concentrations; revised EDDs should be provided within the next week. These assumed enrichment values will be used to project resin loading, and for initial nuclear material control determinations. Data for in-process monitoring samples will supersede assumed enrichment values. *EPM will submit a tech memo presenting the enrichment estimates to NRC and DEQ in August.*

Pilot Test Trench Construction and Testing – A teleconference was conducted on July 7 to discuss information provided on the pilot test. The pilot test is on hold pending NRC and DEQ approval of a revision to the 2017 scope of work. *NRC said an approval letter was already sent. DEQ will send approval shortly.*

Next Teleconference

The next teleconference was scheduled for Wednesday, August 16th, at 1:30 pm Central Time, 2:30 Eastern Time. *EPM will send a meeting invitation and will send a draft agenda prior to the teleconference.*

NRC – DEQ – EPM Telecon Notes

August 16, 2017

(Red text indicates who will take the next action)

Attendees

Ken Kalman
Lifeng Guo
Varughese Kurian
Rachel Browder
Marty Poston

Paul Davis
Torrie Wale

Bill Halliburton
Jeff Lux

Administrative Issues

Sale of Southwest Quarter of Section 12 – The DOJ approved the disposition of the property. EPM will sign a listing agreement and the Purchase and Sale Agreement will be signed by EPM and Cimarron Holdings. Upon resolution of title, the sale will be executed. ***EPM will divest the property once title is clear.***

Unclaimed NRC Fees – NRC will invoice the Trust for less than \$2,000,000 for both unclaimed fees extending back to February 14, 2017, plus Q2 fees. EPM requested accompanying documentation regarding the decision to not charge fees, defer fees, and recover fees, as well as documentation of work performed during those time periods. ***NRC will send invoice. EPM may request a teleconference to discuss fee recovery.***

Archived Records – EPM completed the transfer of files from Tronox' archives to the Trust's electronic repository on August 16th. ***No further action is required.***

Licensing/Permitting Issues

OPDES Permit – The 30-day public comment period ended August 11th. The final permit is undergoing final review by DEQ prior to issuance. ***DEQ will finalize and issue the permit.***

Stormwater Permit – Authorization to discharge in accordance with Stormwater Permit OKR1027644 was issued March 9. The permit expires on September 12. EPM will submit a new notice of intent (NOI) to be covered by that general permit because construction will not be completed by September 12. ***EPM will submit the NOI.***

Site Meeting – EPM will host a meeting for regulatory agency personnel at the Cimarron site the week of September 18th. Topics of discussion will include:

1. Overview of the Cimarron Site and decommissioning project.
2. Description of decommissioning activities & what changes are being made from the D-Plan submitted December 2015.
3. Overview of the pilot test trenching and testing.
4. Field tour to show D-Plan infrastructure and pilot test trenching & testing locations.

NRC will provide a date for the meeting; DEQ will attend as appropriate. EPM will prepare the site and presentation for the meeting.

NRC Inspection – NRC plans to conduct an inspection during the pilot test. The best time to conduct the inspection would be when both trench excavation and testing are being performed. A schedule for the pilot test is being finalized. ***EPM will provide milestone schedule***

NRC – DEQ – EPM Telecon Notes

August 16, 2017

(Red text indicates who will take the next action)

information to NRC and DEQ when the schedule is finalized. NRC and/or DEQ will schedule an inspection based on the milestone schedule.

Decommissioning Issues

Response to RAIs – EPM submitted a response to RAIs on May 31. Two attachments that had been left out of that response were sent to NRC and DEQ on July 14. *NRC will respond by 8/18/17.*

Remediation of BA2 – EPM submitted a proposal to not install remediation infrastructure in the BA2 area on July 6. *NRC and DEQ will approve or not allow the removal of GWI-WU-02 from the decommissioning plan by 9/15/17.*

Groundwater Assessment Report – EPM submitted a groundwater assessment report on March 6. The report concluded that there is no relationship between wet or dry time of year, or saturated thickness (i.e., groundwater elevation) and contaminant concentration. *NRC and DEQ will either comment on the report or notify EPM that they have no comments by 9/15/17.*

Vertical Distribution of Uranium in Groundwater in Alluvial Material – EPM submitted a report on the vertical distribution of uranium in alluvial material on May 19. DEQ responded in a letter dated June 28. *NRC will respond by 9/15/17.*

Analytical Methods for Determining Enrichment – EPM submitted an Enercon technical memorandum on the analytical method for enrichment determination on May 4. DEQ approved the use of ICP-MS in a letter dated May 23. *NRC will respond by 9/15/17.*

Note: NRC will respond to the four submittals listed above by e-mail, possibly in one e-mail, rather than generate formal letters requiring management approval for each separate submittal.

Conservative Assumption of Enrichment for each Treatment Train – Enercon is finalizing a technical memorandum calculating the assumed U-235 enrichment for each treatment train, and values to be used for nuclear material control purposes. Assumed enrichment values will be based on ICP/MS analytical results. *EPM will submit the tech memo to NRC and DEQ in August.*

Pilot Test Trench Construction and Testing – NRC and DEQ have both approved proceeding with the pilot test. *Burns & McDonnell will execute the contract with RSI. EPM will advise NRC and DEQ regarding the schedule. EPM will also submit milestone schedule information for tasks leading up to and including submittal of the revised decommissioning plan.*

Next Teleconference

The next teleconference was scheduled for Wednesday, September 13th, at 1:00 pm Central Time, 2:00 Eastern Time. *EPM will send a meeting invitation and will send a draft agenda prior to the teleconference.*

Cimarron Monthly Status Update

October 27, 2017

(Red text indicates who will take the next action)

Administrative Issues

Sale of Southwest Quarter of Section 12 – The DOJ approved the disposition of the property. EPM signed a listing agreement and EPM and Cimarron Holdings executed the Purchase and Sale Agreement. A title cloud has been cleared, but Cimarron Holdings' lender has requested that Guernsey (engineering/architectural firm) to conduct a Phase I Environmental Assessment prior to providing the required lending. Upon approval of the loan by the bank, the sale will be executed. *EPM will divest the property and distribute the proceeds to the appropriate accounts.*

Unclaimed NRC Fees – A teleconference regarding the sufficiency of trust funds was conducted at the request of Mr. Rob Yalen, attorney for the Department of Justice (DOJ). During that teleconference, Mr. Yalen asserted that it is within NRC's right to recover unclaimed fees (post Effective Date), exclusive of questions regarding the sufficiency of funding. EPM requested accompanying documentation regarding deferred fees, as well as documentation of work performed during those time periods. *NRC will send the invoice for past fees.*

Sufficiency of Funding – It is possible that additional funding from the Savannah Trust may be available, provided it is determined that existing funding is not sufficient to achieve complete remediation of the Cimarron site. During the aforementioned teleconference, EPM was requested to conduct additional assessment of projected remediation costs, extending beyond license termination to achievement of DEQ-established criteria. Mr. Yalen will shortly be unavailable (on extended leave) for a time period. *EPM will generate the estimated cost to achieve remediation to DEQ Criteria before the end of the year, and facilitate a subsequent teleconference with NRC, DEQ, and DOJ.*

Licensing/Permitting Issues

OPDES Permit – OPDES permit OK0100510 was issued August 23, 2017. *No further action required.*

Stormwater Permit – Authorization to discharge in accordance with Stormwater Permit OKR1027644 was issued March 9. The permit expired September 12th. A new notice of intent (NOI) will be submitted shortly. *EPM will submit an NOI.*

Site Meeting – EPM hosted a meeting for regulatory agency personnel at the Cimarron site September 19–21. Topics of discussion included:

1. Overview of the Cimarron Site and decommissioning project.
2. Description of decommissioning activities & what changes are being made from the D-Plan submitted December 2015.
3. Overview of the pilot test trenching and testing.
4. Field tour to show D-Plan infrastructure and pilot test trenching & testing locations.

Cimarron Monthly Status Update

October 27, 2017

(Red text indicates who will take the next action)

NRC Inspection – NRC plans to conduct an inspection during the pilot test. The best time to conduct the inspection would be when both trench excavation and testing are being performed. A milestone schedule for the pilot test was updated and sent to NRC and DEQ on October 24th. *NRC and/or DEQ will schedule an inspection based on the milestone schedule.*

Decommissioning Issues

Response to RAIs – EPM submitted a response to RAIs on May 31. Two attachments that had been left out of that response were sent to NRC and DEQ on July 14. *NRC will respond by 9/15/17.*

Remediation of BA2 – EPM submitted a proposal to not install remediation infrastructure in the BA2 area on July 6. Since that time, EPM discovered that a drive point piezometer installed in the sediment in the western branch of the 1206 drainage yielded groundwater containing over 200 ug/L uranium. Instead of eliminating that remediation infrastructure, Burns & McDonnell will conduct an investigation of the sediment and evaluation alternative approaches to remediating the sediment. *EPM will provide funding for this assessment and evaluation in the 2018 budget proposal.*

Groundwater Assessment Report – EPM submitted a groundwater assessment report on March 6. The report concluded that there is no relationship between wet or dry time of year, or saturated thickness (i.e., groundwater elevation) and contaminant concentration. *NRC and DEQ will either comment on the report or notify EPM that they have no comments by 9/15/17.*

Vertical Distribution of Uranium in Groundwater in Alluvial Material – EPM submitted a report on the vertical distribution of uranium in alluvial material on May 19. DEQ responded in a letter dated June 28. *NRC will respond by 9/15/17.*

Analytical Methods for Determining Enrichment – EPM submitted an Enercon technical memorandum on the analytical method for enrichment determination on May 4. DEQ approved the use of ICP-MS in a letter dated May 23. *NRC will respond by 9/15/17.*

Note: NRC will respond to four of the submittals listed above by e-mail, possibly in one e-mail, rather than generate formal letters requiring management approval for each separate submittal.

Conservative Assumption of Enrichment for each Treatment Train – Enercon prepared a technical memorandum calculating the assumed U-235 enrichment for each treatment train, and values to be used for nuclear material control purposes. Assumed enrichment values will be based on ICP/MS analytical results. The technical memorandum was submitted to NRC and DEQ on August 22nd. *NRC and DEQ will review and comment on the technical memorandum.*

Pilot Test Trench Construction and Testing – Remediation Services, Inc. (RSI) has completed the construction of two full-scale trenches in Burial Area #1. Injection trench GWI-BA1-01 and extraction trench GETR-BA1-01 have been completed. Final grading, placement of topsoil, and

Cimarron Monthly Status Update

October 27, 2017

(Red text indicates who will take the next action)

seeding and fertilizing remains to be performed in Burial Area #1. Site preparation and initial excavation for pilot-scale injection trenches in the Uranium Pond #1 and Uranium Pond #2 areas has begun. Monitor well installation is projected to begin the week of November 6th. ***EPM will update milestone schedule information in subsequent monthly status update notes.***

Next Teleconference

EPM has tentatively scheduled the next teleconference for November 15th, at 1:00 Central, 2:00 Eastern time. ***NRC and DEQ will respond to the meeting invitation.***

Cimarron Monthly Status Update

December 15, 2017

(Red text identifies actions and responsibilities.)

Administrative Issues

Sale of Southwest Quarter of Section 12 – The sale of this property has been executed.

Cimarron Holdings will install a fence along the north boundary of the SW Qtr.

Unclaimed NRC Fees – NRC has generated but not sent an invoice for unclaimed fees. EPM may have paid NRC Region IV fees for eight of the fourteen calendar quarters for which NRC may be recovering fees. Consequently, EPM requested documentation that provides detail on what fees apply to what calendar quarter, and what fees are for Region IV vs. Headquarters as backup information for the invoice. EPM also requested accompanying documentation describing the work performed during those time periods. *NRC will send the invoice for past fees.*

Sufficiency of Funding – A teleconference regarding the sufficiency of trust funds was conducted at the request of Mr. Rob Yalen, attorney for the Department of Justice (DOJ). It is possible that additional funding from the Savannah Trust may become available, provided it is determined that existing funding is not sufficient to achieve complete remediation of the Cimarron site. During the teleconference, EPM was requested to conduct additional assessment of projected remediation costs, extending beyond license termination to achievement of DEQ-established criteria. Mr. Yalen is currently on extended leave for a time, and will not likely be available until January. *EPM will generate the estimated cost to achieve remediation to DEQ Criteria before the end of the year, and conduct a teleconference with NRC and DEQ on January 12, 2017 to discuss its cost estimates and presentation to DOJ. EPM will then facilitate a subsequent teleconference with NRC, DEQ, and DOJ.*

Proposed 2018 Budget – EPM notified NRC that we would need to include significant funding in Task 4 to cover scope of work/costs related to the pilot test which may not be complete in 2017 if EPM were to submit a proposed budget in October or November. NRC stated that if there was significant money in the proposed budget for the pilot test, they would probably be asking us in January to submit a revised budget based on what we then knew would be paid in 2018. Construction of the pilot test infrastructure is now complete, and the remaining activities including injection testing by Burns & McDonnell and vegetation and removal of erosion control material by the contractor remains to be done in 2018.

Extraction Trench GETR-BA1-01 was tested, and yielded a result at less than half the “modeled” extraction rate and ultimately the trench was pumped dry. Additional assessment of transition zone material in BA1 is needed to evaluate the vertical distribution of both hydraulic conductivity and uranium concentration in transition zone deposits.

The proposed budget for 2018 includes funding to complete the remaining pilot testing activities, assess the sediment in the western branch of the 1205 drainage, and assess the vertical distribution of hydraulic conductivity and uranium concentration in transition zone deposits in BA1. The basis for these activities is discussed below. *EPM will submit a proposed budget before the end of the year, as required by the Trust Agreement.*

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(Red text identifies actions and responsibilities.)

Allegation – EPM received a November 21, 2017 letter from NRC requesting information pertaining to an allegation regarding the potential disposal of plutonium or yellow cake uranium from the Cimarron Site at Rio Algom's Ambrosia Lake facility or the Ambrosia Lake Disposal Site. EPM has 30 days to respond to that allegation. EPM reviewed both existing files in the electronic document repository and files that had been retained by Tronox in their document storage facility. EPM submitted a response to the Senior Allegation Coordinator on December 15, 2017. *No further action is required.*

ADAMS Document Repository – It was recently discovered that none of the documents that EPM has submitted to the NRC Document Control Room in 2017 have been uploaded to the public library. Consequently, Mr. Kalman has sent copies to the Document Control Room when he didn't see those documents in ADAMS, resulting in duplication of some documents. *EPM and NRC are working to resolve the issue. In the future, when EPM submits a document to the Document Control Room, Mr. Kalman will be advised of the submittal and provided the accession number to avoid future duplication of effort.*

Office Building Property – Cimarron Holdings made an offer to purchase the approximately 2 acres of land on which the office building is located. EPM recommended to NRC and DEQ that the property be sold along with a copy of the proposal, in an e-mail dated November 8. *NRC and DEQ need to reply to EPM's proposal to sell the property.*

Licensing/Permitting Issues

Stormwater Permit – Authorization to discharge in accordance with Stormwater Permit OKR1027644 was issued March 9. The permit expired September 12th. A new notice of intent (NOI) was submitted November 6, 2018. Inspections have been performed after each precipitation event exceeding 0.5 inches of rain, and every 14 days following such a precipitation event. Stormwater controls have been maintained and documented on inspection reports. *No further action is required.*

OPDES Permit – Discharge monitoring reports (DMRs) are being submitted electronically on a monthly basis. Until water treatment begins, DMRs will simply state "No Discharge". It is not known who (if anyone) within DEQ's Water Quality Division (WQD) should continue to be informed of project status updates at the Cimarron site. *DEQ needs to inform EPM of anyone within the WQD who should be placed on the distribution list for project status updates.*

Site Meeting – Marti Poston-Brown and Lifeng Guo visited the Cimarron site November 20-21, 2017.

Topics of discussion included:

1. Overview of the Cimarron Site and decommissioning project.
2. Overview of the pilot test trenching and testing.
3. Field tour to show D-Plan infrastructure and pilot test trenching & testing locations.

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(Red text identifies actions and responsibilities.)

In addition, Ms. Poston-Brown spent time familiarizing herself with the license, RP support procedures and desk instruction, and the performance and documentation of surveys. After determining that the documents referenced in the license are not available in the ADAMS public library, EPM sent electronic copies of all these “tie-downs” to NRC and DEQ. *No further action is required.*

Decommissioning Issues

Response to RAIs – EPM submitted a response to RAIs on May 31, 2017. Two attachments that had been left out of that response were sent to NRC and DEQ on July 14, 2017. NRC commented on this submittal in an e-mail dated November 28. *No further action is required.*

Remediation of BA2 – EPM submitted a proposal to not install remediation infrastructure in the BA2 area on July 6. Since that time, EPM discovered that a drive point piezometer installed in the sediment in the western branch of the 1206 drainage yielded groundwater containing over 200 ug/L uranium. Instead of eliminating that remediation infrastructure, an assessment of the sediment and uranium concentrations in groundwater in the sediment will be conducted, and alternative approaches to remediating the groundwater in the sediment will be evaluated. After conducting the investigation, a strategy for addressing the sediment in this area will be included in *Facility Decommissioning Plan – Rev 1*. *EPM will include funding for an investigation of this area in the proposed 2018 budget, and will perform the investigation during the first quarter of 2018. NRC and DEQ approval to perform this investigation is needed before the end of the year to perform this investigation during the first quarter.*

Groundwater Assessment Report – EPM submitted a groundwater assessment report on March 6, 2017. The report concluded that there is no relationship between wet or dry time of year, or saturated thickness (i.e., groundwater elevation) and contaminant concentration. NRC stated that they have no comment on this submittal in an e-mail dated November 28, 2017. *No further action is required.*

Vertical Distribution of Uranium in Groundwater in Alluvial Material – EPM submitted a report on the vertical distribution of uranium in alluvial material on May 19, 2017. DEQ responded in a letter dated June 28, 2017. NRC stated that they have no comment on this submittal in an e-mail dated November 28, 2017. *No further action is required.*

Analytical Methods for Determining Enrichment – EPM submitted an Enercon technical memorandum on the analytical method for enrichment determination on May 4, 2017. DEQ approved the use of ICP-MS in a letter dated May 23, 2017. *NRC will comment on this report once health physics personnel are assigned to this task.*

Conservative Assumption of Enrichment for each Treatment Train – Enercon prepared a technical memorandum calculating the assumed U-235 enrichment for each treatment train, and values to be used for nuclear material control purposes. Assumed enrichment values will be based on ICP/MS analytical results. The technical memorandum was submitted to NRC and DEQ on August 22, 2017. *NRC will comment on this report once health physics personnel are assigned to this task.*

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Pilot Test Trench Construction and Testing

BA1 – Remediation Services, Inc. (RSI) has completed the construction of Injection Trench GWI-BA1-01 and Extraction Trench GETR-BA1-01. Final grading, placement of topsoil, and seeding and fertilizing has been completed. The “pump test” in GETR-BA1-01 is complete; pumping from the trench at 16 gallons per minute (gpm) drained the trench dry (see the “Vertical Profiling in BA1” topic below). This is significantly less than projected. The injection test in GWI-BA1-01 is ongoing; it appears this trench can deliver at least 10 gpm to Sandstone B in the vicinity of the trench.

Uranium Ponds #1 and #2 – Construction of Injection Trenches GWI-UP1-01 and GWI-UP1-02 has been completed. Final grading, placement of topsoil, and seeding and fertilizing has been completed. Injection testing may begin in December 2017, but will be concluded in January 2018.

EPM will update schedule information in subsequent monthly status update notes.

Vertical Profiling in BA1 – Extraction Trench GETR-BA1-01 was constructed to extract contaminated groundwater from transition zone material. The transition zone soils are predominantly silty and clayey soils, with intermittent sand lenses. The transition zone material in BA1 has very low hydraulic conductivity, but contains groundwater yielding the highest concentrations of uranium, so the time required to reach the DCGL is longest in this area. The need to keep this trench filled with a dense, thick slurry during excavation made it impossible to view the lithology during excavation.

The duration of remediation presented in the 2015 *Facility Decommissioning Plan* was based on the very conservative assumption that the maximum concentration of uranium in groundwater in an area (e.g., the BA1 Transition Zone) is uniformly distributed throughout the entire area, and throughout the entire saturated thickness. Because GETR-BA1-01 was not able to consistently produce half of the anticipated flow rate, that conservative assumption would double the duration of remediation. Consequently, it is necessary to better define the vertical and horizontal extent of groundwater exceeding the DCGL in these transition zone deposits.

The December 2016 investigation in the alluvial deposits demonstrates that advancing borings with a geoprobe rig equipped with the hydraulic profiling tool (HPT) may be able to produce the data needed to determine the three-dimensional extent of permeable material in the transition zone deposits. *EPM will provide funding for this investigation in the proposed 2018 budget, and will conduct a vertical profiling investigation of the BA1 transition zone deposits during the first quarter of 2018. NRC and DEQ approval to perform this investigation is needed before the end of the year to perform this investigation during the first quarter.*