

NOTES SUMMARY
AMP development working group meeting
03/03/11

Broomfield (BF) Monitoring Objectives (MO) (attached at end of notes)
(Notes are referenced to topic number on Broomfield's list of MOs)

Broomfield initiated the discussion by reviewing their proposed MOs (attached for reference following notes). Key points are noted below.

- BF – Broad range of concerns. Not trying to supersede, over-ride or replace RFLMA. Want more frequent reporting of things already monitored, more frequent monitoring
 - BF – like to review draft AMP 2 weeks before last AMP development meeting
 - BF/Woman Creek Reservoir Authority (WCRA) – go over draft AMP at last AMP development meeting.
 - DOE – agrees the AMP participants will have time to review draft before finalizing.
- 1: Dams remain in place until 2036
- BF – not support any breach before 2036, but willing to negotiate specifics. Disagree with DOE position on water lease. Willing to negotiate modification of lease.
 - DOE – will post DOE's letter to Broomfield on water lease to LM website. DOE does not agree with Broomfield's contention that the lease precludes dam breach. DOE considers the water lease is not appropriate subject for the AMP. This issue will be handled by the attorneys.
- 2: Flow-through operations
- BF – Triggers for closing or reopening valves during flow-through. Want same type of triggers as proposed by WCRA.
 - DOE – flexibility on response to water quality issues is discussed in the EA and will be included in AMP.
- 3: Criteria for breaching dams
- BF – Identify data used to support breach. Want 2, 5-year review (5YR) cycles under AMP before breaching to show site is stabilized. If lease not modified, 5YR cycles start in 2036, could start sooner if lease modified.
 - RFSC – define terms, elevated, etc. used in bullets
 - BF – AMP working group would define in AMP.
- 4: Institutional controls issue needs to be resolved before AMP finalized
- 5: AMP deadline – should reach consensus prior to finalizing, not rely on targeted date (April 2011)
- 6: Downstream cities should be involved in future changes to the AMP
- DOE – The AMP will include language defining the process.
- 3: criteria
- BF – want to see the data proving the remedy is effective. Could have rising trends that are below the standards that could indicate problems (shouldn't breach). Not looking at this as part of the CERCLA process, looking at as a time frame for breaching. Monitoring is needed to demonstrate the remedy is working, has had sufficient time to reach steady state and no problems remain. Then BF could relax stance that ponds are the last line of defense. Need at least 2- 5Yrs with no

exceedance for any of the AMP criteria. Any time one of the criteria is exceeded, would reset the starting point for the 2- 5YR cycles before a determination to breach. BF is looking for criteria (that must be met prior to breaching) that would allow BF to support breaching the dams. 2-5YR cycles would allow BF to go to its constituents and say DOE has meet the criteria, so it is okay to breach dams.

- DOE – not agree to set 2 5YR cycles as basis for breach decision and restarting clock after any exceedance. During 5YR regulators verify protectiveness of remedy. Would BF accept the protectiveness statement to verify remedy is protective? DOE is concerned about language addressing operation of treatment systems as a trigger for re-starting the review cycle would provide a disincentive to improvements to treatment systems. DOE is obligated to continue to try to improve treatment effectiveness. (referring to 4th bullet). DOE will always provide information to the public regarding proposed changes to treatment systems. Proposed 5YR review criteria language will be in the draft AMP for discussion by the AMP participants prior to finalizing.
- CDPHE – some things, data, could lead us to look at carefully, but don't necessarily mean the remedy is not protective.
- CDPHE/DOE – both have issue with setting back the clock, too many restrictions that may not be related to remedy effectiveness.

4: institutional controls

- DOE – the process to resolve the IC issue regarding excavation below 3 feet is being discussed by RFLMA parties and will need to be resolved prior to breaching the dams. That doesn't preclude completing and implementing the AMP.

5: AMP deadline

- DOE – the April deadline is for completing the plan, the adaptive management components of the plan will continue for the long term, probably post-dam breach. Plan needs to be completed in order to issue the EA/FONSI in timely manner to meet scheduling and procurement requirements.

6: process for involving communities in AMP decision making

- DOE – public involvement and participation is based on the Public Involvement Plan. Language addressing notification, discussion, reviews and AMP modifications will be included in the AMP document. DOE invites full participation of CDPHE and EPA.

BF question: will CDPHE delay the proposed RFLMA mods until after the AMP is completed as requested in the BF letter to the director?

CDPHE: the final decision on the RFLMA mods is not tied to the AMP, but is still in process.

7: Monitoring programs

- BF wants to continue monitoring at identified locations for 2-5YR cycles, wants to keep the existing monitoring locations, regardless if they are changed under RFLMA.

Indiana St. monitoring

- DOE – does not see replacing Indiana St. locations in event they have to be removed due to Jefferson Parkway construction. Won't seek to maintain locations on non-federal land and doesn't want to reinstall monitoring locations outside of NPL site.
- BF – If parkway authority built monitoring stations, would DOE monitor, operate and maintain the new locations?

- DOE – would agree to operate for some time, probably not 2-5YR cycles, but for some period of time as long as have access. If property changes hands, that changes the legal status. Federal government needs agreement to access private land.

Present Landfill/No Name gulch

- BF – wants to analysis of all analytes on Table; 1 new groundwater well above confluence with No. Walnut Creek; continue monitoring at locations that will be eliminated from RFLMA.
- DOE – the locations indicated by BF are not being eliminated, they will continue to be monitored under RFLMA.
- CDPHE/DOE – All of the analytes on Table 1 are based on state standards, and includes the contaminants of concern for Rocky Flats and many additional analytes that were included prior to closure. Analytes are evaluated under RFLMA as specified for each particular monitoring location. Table 1 does not include all “priority analytes”. The lab reports the entire suite of analytes for each particular analytical method, including many that are not included on Table 1. DOE reports all laboratory results for all of those analytes and evaluates those that are listed on Table 1.

North Walnut Creek

- DOE – questions why BF wants daily grab samples for nitrate. What is the objective, benefit? There is no way to do grab daily. Possibly do automated sampling, but need to resolve holding time issues. Need to prioritize so the cost-effectiveness of the additional monitoring can be determined. May prefer to spend the limited budget on other analytes like U at other locations rather than for nitrates at SW018. Have to think of what it will buy you.
- BF – wants to make sure that DOE is capturing the same data downstream during flow-through as is currently being captured at upstream locations. It is tied to the uncertainty with the proposed RFLMA changes. Objective of daily monitoring is to get a better resolution of data to show how treatment units are working.
- DOE – already doing bi-weekly grabs, SW018 has no history of nitrate. As for the proposed RFLMA mods, DOE isn’t changing any of the RFLMA monitoring currently in place.

South Walnut Creek

- DOE – not doing enhanced nitrate sampling because nitrate is not a concern there, have never seen it and there is no source there based on current monitoring.
- BF – would like to look at it for a while to prove there is no source or concern, especially during flow-through. Looking for a holistic response, how do all the segments interact at the POCs? Also want the POCs that are proposed to be modified to remain as AMP monitoring below confluence of N and S Walnut Creeks. Also want DOE to keep reporting on GS-03.

Groundwater Wells

- BF – increase frequency of groundwater monitoring. Higher frequency of data obtained by more monitoring during runoff season. BF would like to see more refined data to assure the site is stable before breaching dams.
- DOE – What is the value of more frequent analysis of groundwater wells when constituents are below standards and the wells are above the area where the dams will be breached? Runoff probably won’t make much difference, AOC wells are out in

front of the plumes, so wouldn't see much there. If don't see contamination above the standards in the wells now, how would more frequent data be of benefit?

Additional discussion

- BF – this group should define consensus and have that language in AMP. How many more meetings until April AMP deadline? Want to see AMP language before hold any more meetings. Want written response to their requests before seeing AMP draft. Doesn't have to be detailed response, but would like a yes or no. Could this group discuss comments on the draft AMP rather than waiting for written response?

DOE – will lay out in the AMP how the AMP consultation process will work. Scheduling future meetings depends on when the AMP draft is completed, but DOE is committed to flexibility in making this process work. Responses to monitoring objectives provided by BF and WCRA will be addressed in the draft AMP. A lot of the yes or no response should be apparent from the notes summary. Discussion of draft AMP comments could occur at the next AMP development working group meeting.

WCRA monitoring objectives follow-up discussion

- WCRA – What if C-2 is discharged before the AMP is completed? Would like to see turbidity monitoring installed before the next discharge if possible to create a baseline for future flow-through. Multiple bottles with more than one composite per event could be beneficial for rising limb sampling at GS-31.
- Previous recommendations were based on RFLMA sampling staying the same. Propose that RFLMA changes act as a trigger for AMP review and revision. Either require GS-31 sampling in AMP, or, if RFLMA changes, that would trigger an AMP review. If GS-31 sampling goes away, want to continue sampling at a nearby location for two more years just to make sure.
- Recommendations all based on taking a look at the AMP every 2 years.
- Westminster – will the AMP include specifics on how monitoring locations will be set up?
- DOE – that is too specific for AMP. AMP will have the “what and where”, similar to RFLMA, and the “how” of specific monitoring could be added to an attachment to the Site Operating Guide (RFSOG) that is being developed that addresses non-RFLMA monitoring.

Next meeting

- DOE – next meeting will be determined by completion of the draft AMP. Propose 1 week following distribution of draft AMP to discuss and achieve as much verbal agreement as possible before sending out for written comments. DOE will notify the working group as soon as possible of the projected completion of the draft AMP, then will schedule a discussion meeting for approximately 1 week after the draft is distributed.

For reference, Broomfield's monitoring objective proposals are attached below:

The City and County of Broomfield's Requested Items for the Rocky Flats Surface Water Configuration Environmental Assessment – Adaptive Management Plan

March 2, 2011

The City and County of Broomfield (Broomfield) requests that Department of Energy, Office of Legacy Management (DOE-LM) include the following items in the Adaptive Management Plan (AMP) for the Draft Rocky Flats Water Configuration Environmental Assessment (EA), dated April 2010. The items below are not mutually exclusive and any proposed changes or revisions will require further evaluation and review by Broomfield.

Broomfield has stated in various written and verbal communications that it is concerned with the DOE-LM's proposal to breach the dams so soon following closure. Broomfield believes that the following items will address unanticipated changes in environmental conditions or the subsequent information that might effect the environmental protections as analyzed in the EA, and provide Broomfield with the necessary technical data and assurances regarding the long-term performance and reliability of the remedy.

Please provide us with a written response on our request before the draft AMP is released for comment and review. In addition, we are requesting that DOE-LM distribute a draft copy of the AMP 2 weeks before the final working group meeting. The final working group meeting would be reserved for reviewing and discussing the draft AMP before it is finalized. We are looking forward to continuing our technical discussions on the AMP so that the items listed below can be included in the development and implementation of the AMP.

1. The dams for Ponds A-4, B-5, and the Present Landfill should remain in place until 2036.

- The water lease with Broomfield specifies that the DOE-LM must collect and test the water prior to release as part of the operations for the A- and B-Series Ponds until 2036.
- The terms and conditions of the water lease for this mode of operation shall remain in effect, unless otherwise amended in writing and approved by both parties.

2. The goals and objectives of the AMP must clearly identify the triggers for commencing and ceasing flow-through operations and the criteria that will be used to decide whether or not to breach the dams.

- The following language was extracted directly from the sixth paragraph of a handout entitled "*Rocky Flats Surface Water Configuration Environmental Assessment, Adaptive Management Plan Purpose and Process*," that DOE provided at the January 13, 2011(AMP) working group meeting:

DOE envisions a flexible process that integrates long-term monitoring and analysis with adjustments to management actions to address unforeseen changes in site operations. ... Examples of elements that could be adjusted include, adding water monitoring locations and modifying monitoring

frequency, setting parameters for the decision to breach, and determining the specific time-frame for breaching the terminal dams.

- Consistent with the information provided, the DOE-LM should include a contingency plan for opening and closing the valves during flow through conditions (similar to the triggers provided by the Woman Creek Reservoir Authority at the February 27, 2011 AMP working group meeting).
- The breaching of the terminal ponds should be based on meeting data quality objectives rather than a specified timeframe as stated in the EA.

3. Broomfield proposes that the criteria for breaching the dams for Ponds A-4, B-5, and the Present Landfill should be based on the successful demonstration that the remedy continues to function properly without significant issues, site changes, or water quality exceedances for 2 consecutive 5-year Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) review periods.

- The determination of successful site operations will include, but are not limited to, the following performance indicators:
 - No water quality exceedances or elevated levels at any surface water Points of Compliance (POC), surface water Points of Evaluation (POE), surface water monitoring at Indiana Street (regardless of the designation as a POC, or not), and groundwater Area of Concern (AOC) wells.
 - Surface water and groundwater monitoring are not showing increasing trends.
 - Sustained functional performance of the groundwater treatment units without changes, modifications, or alterations to the treatment process.
 - No significant erosion activities, landslides, slippage, slope failure or other geological activity where surface or subsurface soils are mobilized or disturbed.
 - No abnormal or unforeseen condition that could have an adverse effect on the breaching of the dams.
- The eligible review period will not commence until after the year 2036 unless the DOE-LM's Water Lease with Broomfield is amended. (If the Broomfield Water lease is amended, the review period would not begin until the AMP has been finalized and a Record of Decision (ROD) for the Rocky Flats Surface Water Configuration EA is published in the Federal Register.)
- Whenever there is a water quality exceedance, modification to the site, or soil movement, the beginning of the subsequent CERLA review period would become the new starting point.
- Similarly, if the Colorado Water Quality Control Commission (CWQCC) adopts less stringent water quality standards or stream segment designation than what

currently exists at the DOE-LM's request, then the new starting point would coincide with the beginning of the next CERCLA review period.

- 4. All outstanding legal issues related to the institutional controls for the Central Operable Unit and compliance with the Resource Conservation and Recovery Act (RCRA) for the Present Landfill must be resolved, including any requirements for public participation, before the AMP is finalized.**
 - The DOE-LM has an opportunity to continue the public process of developing an AMP while proposed changes and amendments to the institutional controls in the Proposed Plan, Corrective Action Decision/Record of Decision (CAD/ROD), Rocky Flats Legacy Management Agreement (RFLMA), and the Environmental Covenant are being considered.
 - Broomfield has not been provided with any written responses to whether the breaching of the Present Landfill complies with the RCRA and the Colorado Hazardous Waste Act (CWA).
- 5. The preparation and release of the AMP should be linked to achieving a goal based outcome rather than an arbitrary deadline.**
 - There is no regulatory basis for completing the AMP by April 2011.
 - Since the breaching of the terminal dams is not planned for many years in the future, development and preparation of the AMP should be based on meeting the needs of all the parties.
- 6. The AMP needs to include a process where the downstream communities are involved and “at the table” when any future changes, modifications, or amendments to the AMP are being considered, or when any significant decisions to implement the AMP or Proposed Action in the EA are made.**
 - Any changes, modifications, or amendments to the AMP should be made through a consensus building, public participation process.
 - DOE must invite the Colorado Department of Public Health and Environment (CDPHE) and the Environmental Protection Agency (EPA) to all future technical meetings related to the AMP.
- 7. The following surface and groundwater monitoring programs, delineated by stream segment, needs to be included for the full duration of the AMP implementation and continued for a minimum of two complete CERCLA review cycles after the last terminal dam at the site is breached.**
 - The proposed sampling program listed below should be included in the AMP regardless of any current or future proposals to amend the RFLMA.
 - If the Indiana Street monitoring sites are forced to be relocated due to the construction of the proposed Jefferson Parkway, DOE will install and continue to

operate new surface water monitoring sites at the western boundary of the Jefferson Parkway right-of-way.

Present Landfill / No Name Gulch

Objectives: (1) Ensure that the groundwater treatment unit for the Present Landfill continues to function properly and (2) water quality standards for a closed landfill are being met.

- Conduct monthly/quarterly analyses of all analytes listed in the Rocky Flats Legacy Management Agreement, Attachment 2, Table 1 dated February 2007 for the following locations:
 - **PLFSYSEFF** (this location is being proposed for elimination from RFLMA)
 - **PLPONDEFF** (or NN01 after the Present Landfill dam has been breached)
 - **New No Name Gulch AOC Well** (This would be a new groundwater monitoring location above confluence with North Walnut Creek)

North Walnut Creek

Objectives: (1) Ensure that the Solar Ponds groundwater treatment unit continues to function properly and (2) water leaving the site meets CWQCC surface water standards.

- Increase the frequency of the monitoring program from semiannually to monthly during the runoff season and after significant precipitation events for the following monitoring locations listed in the Rocky Flats Legacy Management Agreement, Attachment 2, Table 2 dated September 2009:
 - **SW-018** (Current RFLMA monitoring is limited to semiannually)
 - **SPIN** (Current RFLMA monitoring is limited to semiannually)
 - **SPOUT**(Current RFLMA monitoring is limited to semiannually)
- Calculate and report 30-day and 12-month flow weighted rolling averages for Americium, Plutonium, and Uranium, and collect daily grab samples for Nitrates, at the following locations:
 - **SW-018** (Current RFLMA monitoring does not include radionuclides or nitrates)
 - **SW-093** (Currently, only 12-month averages are reported as part of RFLMA)
 - **GS-13** (Currently, only 12-month averages are reported as part of RFLMA)
 - **GS-11** (Currently, only 12-month averages are reported as part of RFLMA. In addition, DOE is proposing to delete this monitoring location from the RFLMA)

South Walnut Creek

Objectives: (1) Ensure that the Mound Site and East Trenches groundwater treatment units continue to function properly and (2) water leaving the site meets CWQCC surface water standards.

- Increase the frequency of the monitoring program from semiannually to monthly during the runoff season and after significant precipitation events for the following monitoring locations listed in the Rocky Flats Legacy Management Agreement, Attachment 2, Table 2 dated September 2009:
 - **MOUND R1-0** (Current RFLMA monitoring is limited to semiannually)
 - **MOUND R2-E** (Current RFLMA monitoring is limited to semiannually)
 - **ET INFLUENT** (Current RFLMA monitoring is limited to semiannually)
 - **ET EFFLUENT**(Current RFLMA monitoring is limited to semiannually)
- Calculate and report 30-day and 12-month flow weighted rolling averages for Americium, Plutonium, and Uranium, and collect daily grab samples for Nitrates, at the following locations:
 - **GS-10** (Currently, only 12-month averages are reported as part of RFLMA)
 - **POM2** (Currently, only 12-month averages are reported as part of RFLMA)
 - **GS-08** (Currently, only 12-month averages are reported as part of RFLMA. In addition, DOE is proposing to delete this monitoring location from the RFLMA)
- Conduct monthly analyses of VOC's at **GS-10** and **GS-08**:

Walnut Creek (below confluence of North and South Walnut Creeks)

Objective: Ensure that the migration of contaminants from the site do not result in exceedances of the CWQCC surface water standards.

- Calculate and report 30-day and 12-month flow weighted rolling averages for Americium, Plutonium, and Uranium, collect daily grab samples for Nitrates, and conduct monthly analyses of VOC's at the following locations:
 - **Proposed Walnut Creek POC**(The DOE-LM is proposing to replace GS-03 as the Walnut Creek POC with a new monitoring site further upstream)
 - **GS-03** (DOE is proposing to delete this monitoring location from the RFLMA)

Groundwater Wells

Objectives: (1) Ensure that the existing contaminated groundwater plumes are not migrating and (2) groundwater at the Area of Concern (AOC) wells meets the CWQCC groundwater standards.

- Increase the frequency of the monitoring program from semiannually to monthly during the runoff season and after significant precipitation events for all of the

AOC groundwater wells listed in the Rocky Flats Legacy Management Agreement, Attachment 2, Table 2 dated September 2009.