

NOTES SUMMARY  
AMP development working group meeting  
02/17/11

Broomfield (BF) opened the discussion with suggested language to include in the AMP that was modeled on the language in RFLMA. The purpose of the language was to establish in writing the level of participation for interested parties.

- BF described their perception of the AMP process and believes the objective of the AMP is to assess the flow-through condition over the next eight years to determine whether to breach or not. Identified three objectives.
  1. Prior to breaching want to reassess conditions via the AMP at set time intervals.
  2. Want to define the process of assessment – define explicitly who is involved.
  3. Wants technical information available at an earlier timeframe than they have previously.

Summary of discussion of BF's proposed language.

Role of parties in AMP decision making:

- BF wants to be sure they are at and remain at the table during the process of making the dam breach decision. BF wants to be at the table, not necessarily as regulators. Don't want to over-ride RFLMA, want an understanding of the parties involved, access to data and the ability to discuss the data in a timelier manner as part of the consultative process. Concerned that DOE has not provided the model that will be used to define roles in the process. Would like to see that.
- DOE – regulators are already defined and consultation is part of the process. AMP is not a regulatory document or agreement. The regulatory process is defined in RFLMA and the other stakeholder involvement is defined in the Public Involvement Plan (PIP). BF proposed regulatory language to a process that doesn't fit under the regulatory model.
- CDPHE – BF extracted language in an agreement between the DOE, EPA, and the state. It's more appropriate to use language from the PIP for the AMP process because the AMP is not regulated by CDPHE or EPA. Talked about this before, the possibility of adding language to the PIP, and BF indicated that the existing language is sufficient. Think BF already has assurances that it will get all the info needed.
- EPA – under NEPA, the initiating federal agency has sole authority.

Summary of discussion of how data will be shared:

- DOE – Data should be available on Geospatial Environmental Mapping System (GEMS) immediately after it is validated. DOE can commit to making data available on a specific basis. DOE has an existing public involvement process that DOE uses to share information, wonder what BF's basis for changing the timing of notifications? The cities/public are notified at the same time as the regulators under RFLMA. DOE

understands that participants want earlier information, but why decrease the current timing? What is the technical basis?

- BF – Dealing with flow-through is a different condition, could present problems. No technical basis, just want a shorter time than in RFLMA. If we can identify triggers we may not have to worry.
- DOE – what is the relationship between the AMP and some of BF's recommendations, for example, violation of institutional controls?
- BF – DOE will be digging below 3 feet and BF thinks it affects the whole system. Dams are BF's last line of defense. The whole reason BF is here is BF doesn't want the terminal dams breached, but after 7-8 years we might have enough data to breach. The site is dynamic enough that DOE can't make a breaching decision. BF wants to be part of and be able to provide input in the decision-making process. BF wants more opportunity to participate as things are happening on site. Wants language in AMP that ensures BF is part of the process when changes are made to the AMP. Doesn't want new regulations, but wants a role on consultation and consensus over the next 8 years. Want to be involved in the resolution of disputes, but will differ to CDPHE and EPA.

Summary of discussion of topics provided by DOE.

Evaluation steps -

- DOE – need to develop monitoring objectives (MO). What do the cities want to do and what does the data mean? Focus is AMP, what is the objective of the monitoring? Goal is to demonstrate to the communities through the AMP process that there will be no exceedances and determine how to apply the new data to this process. DOE identified examples of MOs, which are the type of information to establish – non-RFLMA sampling to establish ambient standards; spatial info on reaches of streams where DOE thinks it knows, but not have enough evidence yet; impact of revegetation and erosion control, which is expected to be positive. Overall goal of MOs is to get more detailed data.
- BF – what about nitrates, for example, how they change through the system?
- DOE – Uranium is major issue (in Walnut Creek drainages) because of high background and low standard. Can also include other constituents as part of the sampling data evaluation at no extra cost, but they are not a compliance issue at the POCs. Issue is learning where in the system the U is picked up – where and how natural U is occurring at Rocky Flats.
- BF – Are MOs a link to operational changes? BF sees three operation actions that need an evaluation process – open valve – close valve – breach dams – BF questions for the AMP are deciding whether/when to open/close/breach.
- DOE – also looking at habitat improvement and returning the areas to a natural condition. Want to stabilize soils and water levels at dams to establish the ecological fluctuation.

Summary of discussion of Woman Creek Reservoir Authority (WCRA) recommended monitoring objectives by number (WCRA list attached at the end of the notes)

#5 – additional AMP specific monitoring

- WCRA – concerned with Pu/Am in Woman Creek, data collection in current locations pretty good to get what data is needed at flow-through. Want a refined

assessment (real time assessment) of solids as they move through the stream. MOs to help determine the relationship between turbidity and Pu/Am concentrations. Use rising limb to collect TSS data, then connect turbidity to TSS, if found to be useful.

- WCRA – exit strategies and 2 year review. Want review of AMP at no more than 2-year intervals to review all the information listed and have good background data – want to look at all the documentation, not just a snapshot.
- DOE – flow at 027 is about every other year, so 2 years is a good timeframe.
- BF – what about GS031, it won't be a RFLMA reporting location after it is not a POC?
- DOE – could continue sampling at GS031 under AMP, can put in turbidity sampling, rising limb etc., it just won't be a POC. Can use data in AMP based on MO goals. Monitoring data will be available to public on GEMS, which is posted at nearly the same time as DOE receives the validated data.

#6 – communication issues

- WCRA – Will AMP result in annual report, part of RF site annual report?
- DOE – Re-thinking including in annual report because annual report is a regulatory requirement. May split it up, may put on different schedule than site annual report, but would use all the data. One possibility is separate periodic reports, but with summary included in annual report. Communication process will be included in AMP.
- WCRA – technical meetings, regular or periodic meetings? Specify in the AMP? One problem, GEMS data doesn't give any evaluation, just raw data.
- DOE – could add an explanation at quarterly meetings to add AMP information, but don't want to use RFSC to hold technical meetings. Could agree to a regular schedule or to schedule meetings when there is a trigger from the data.
- WCRA – need an exit strategy, perhaps for individual pieces of the AMP, strategy should be staged.
- DOE – need parameters of actions, or a range of behaviors, with flexibility for implementation.

WCRA question – Where did the dirt in the dams come from?

DOE response – still researching that information. (Information was obtained following the meeting that the material removed during spillway excavation was used in dam construction.)

Ecological outcomes of dam breach anticipated in Draft EA presented by site ecologist.

- Will result in losing open water habitat. Because pond bottoms will be filled, it will create a flat, shallow emergent wetland. Areas above water line level will develop upland vegetation, grassland. A native seed mix will be planted. Downstream areas will be similar, dependent on what vegetation can grow in the armoring used in spillways.
- Changes – will lose some aquatic animals, water fowl will lose pond surfaces, but some bird species will decline and others increase.

- Preble's' Meadow Jumping Mouse – open water is not Preble's' habitat, emergent wetlands are critical mouse habitat, so will increase the amount of mouse habitat on site. By enhancing habitat, will be following directives for federal facilities.
- Trees and herbaceous habitat in areas downstream of the COU boundary could benefit from more consistent flows during the growing season in a flow-through/breached condition.
- WCRA – when open valve for flow-through will pond bottoms be flattened (as projected for final breaching)?
- Grass and erosion control matting will be placed on the exposed pond bottoms.

#### Action Items

DOE – distribute sign-in sheets for previous meetings.

distribute table of topics of agreement

BF – will send MOs to DOE

Next meeting – Thursday, March 3, 1-4 p.m. at DOE RFS office.

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#### **DRAFT – WCRA-Requested AMP Inclusion Items\_ 2-17-2011 Meeting**

The following text comprises the initial draft list of WCRA-requested items for inclusion in the AMP. We look forward to additional discussion and anticipate an opportunity to modify this list, as needed, through edits to the draft AMP and/or other future communications with DOE prior to AMP finalization.

**1. AMP Triggers to Close C-2 Valve During Flow-through Conditions -** Items WCRA requests in the AMP as triggers for closing the Pond C-2 valve during flow-through conditions (i.e., prior to breaching):

- Wildfire in C-2 drainage,
- Significant slumping/ erosion observations in C-2 drainage, and
- Exceedance of standard at GS31, GS01 or SW027

We also recognize that in the event a valve is closed, the AMP will need reasonable language to allow for re-opening of the C-2 valve following review of available data. WCRA would like the process to include a public technical meeting to present the findings of the follow-up analysis and conclusions/basis to reopen.

**2. Communications/Info Provision to WCRA –** WCRA requests additional communications/information from DOE. Currently, WCRA only receives notice if an exceedance occurs at GS01. Throughout the AMP implementation (during flow-through conditions and following dam breaching), WCRA would like to receive notification of:

- Sample collection at GS01,
- Water quality results as soon as DOE receives them (GS01 [priority], GS31, SW027) – pre-validation/validation notification, and
- Flow data (in an electronic format on a quarterly basis or upon request if more immediate information is needed).

**3. Response Actions to SW027 Exceedance in 2010** –WCRA requests that initiation of flow-through at Pond C-2 wait until at least one growing season has passed to allow the reseeded portion of the SW027 response to ‘take root’. We also request a review of the revegetation status prior to valve opening.

**4. Minimizing Missed Sampling Periods at GS01** – WCRA recommends use of backup sample bottles (master-slave configuration at bottle-#1 flow pace) to minimize the chance/duration of missed sampling periods at GS01. DOE noted that a larger sample bottle could provide the same result, and this might be easier to implement due to the use of “refrigerated” samplers which have ample space for larger bottles. WCRA would request/support either option. There should be no change in the number (monthly sample count targets) of samples collected due to implementation of this approach.

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WCRA also recognizes that missed sampling intervals could still occur due to flooding and/or equipment failures. This measure is only to minimize missed sampling during the cases when bottles fill due to rapid changes in flow rate before field staff can visit the sampling station.

**5. Additional AMP-Specific Data Collection** – WCRA proposed studies that could provide useful information to monitor Pu/Am migration under the new hydrologic conditions of flow-through. These data would also provide information to evaluate in the event of an exceedance at GS31 or GS01:

- Collection of continuous (15-minute) turbidity data below pond C-2 (GS31), and
- Collection of rising limb storm event samples below Pond C-2 (GS31). WCRA is interested in collecting Pu/Am and TSS. This approach would allow for successful collection of TSS, which is currently often missed due to hold-time issues.
- AMP exit strategies to discontinue this additional sampling – Assess need and value during 2 year review (consider event sizes captured, any trends, etc.)

**6. AMP Ongoing Evaluation and Reassessment**–WCRA supports the following approach to ongoing evaluation and periodic reassessment of the AMP:

- Evaluation of the AMP sampling results within the annual reports to allow for consideration of results with all of the data collected at the RFS,
- Discussion of AMP sampling results at periodic technical meetings (greater frequency than annual/quarterly reporting),
- A timeline of no-more-than 2 years before revisiting the AMP. The 2 year timeframe seems reasonable to allow for adequate data collection to assess the changing conditions, noting that the size of hydrologic events captured in the 2 year window should be considered in the evaluation. The “no more than” language leaves the door open for more frequent reassessment as warranted by any unanticipated findings.
- Participation by downstream communities in AMP reassessment/revision.