

**Rocky Flats Coalition of Local Governments Board Meeting Minutes**  
**Monday, June 3, 2002**  
**8:30 – 11:30 a.m.**  
**Mt. Evans Room in the Terminal Building**  
**Jefferson County Airport, Broomfield**

**Board members in attendance:** Hank Stovall (Director, Broomfield), Tom Brunner (Alternate, Broomfield), Mike Bartleson (Alternate, Broomfield), Sam Dixon (Director, Westminster), Ken Fellman (Alternate, Arvada), Clark Johnson (Alternate, Arvada), Lisa Morzel (Director, City of Boulder), Mike Weil (Alternate, City of Boulder), Jane Uitti (Alternate, Boulder County), Karen Imbierowicz (Director, Superior), Nanette Neelan (Alternate, Jefferson County).

**Coalition staff members and consultants in attendance:** David Abelson (Executive Director), Kimberly Chleboun (Program Manager), Melissa Anderson (Technical Program Manager), Barbara Vander Wall (Seter & Vander Wall, P.C.).

**Members of the Public:** Dave Shelton (Kaiser-Hill), Bob Nininger (Kaiser-Hill), Bill Badger (Kaiser-Hill), Jeremy Karpatkin (DOE), Rick DiSalvo (DOE), Joe Legare (DOE), John Rampe (DOE), Dean Rundle (USFWS), Laurie Shannon (USFWS), Mark Sattleberg (USFWS), Steve Gunderson (CDPHE), Kathleen Rutherford (CDPHE), Jerry Henderson (RFCAB), Patricia Rice (RFCAB), Al Nelson (City of Westminster), Shirley Garcia (City of Broomfield), Bob Nelson (City of Golden), Doug Young (Congressman Udall), Doris DePenning (Friends of the Foothills), Roman Kohler (Rocky Flats Homesteaders), Robert Lynch (RFSOIU #1), Phil Cruz (RFSOIU #1), Dan Chesshir (RFSOIU #1), John Whitney (RFSOIU #1), Gail Bange (Wackenhut), Berny Morson (Rocky Mountain News), Paul Carrara (USGS), Ralph Shroba (USGS), Heidi Koontz (USGS).

**Convene/Agenda Review**

Chairman Dixon called the meeting to order at 8:45 a.m.

**Business Items**

- 1) **Motion to Approve Consent Agenda** – Ken Fellman motioned to approve the consent agenda. Hank Stovall seconded the motion. The motion passed 6-0 (Jefferson County was not yet present).
- 2) **Executive Director's Report** - David Abelson first discussed recent developments in the issue of plutonium shipments to South Carolina including South Carolina Governor Hodges lawsuit, legislation proposed by Rep. Udall and Senator Allard, and the legislation proposed by South Carolina Rep. Lindsey Graham. There are now additional factors to consider in shipping plutonium offsite, including the recent Office of Inspector General's (OIG) report on the Rocky Flats' plutonium stabilization and packaging system. The OIG suggested the Site

should better develop its long-term packaging schedule, as well as a contingency plan in case of system failure. Also, DOE has announced it will not use the DT-22 containers, which were discussed at the May 6<sup>th</sup> Board meeting. This change may result in the end of lawsuits attempting to stop DOE's shipments to the Lawrence Livermore facility. Second, David addressed the recently announced second round of DOE personnel changes, which include moving Barbara Mazurowski to DOE headquarters. Rocky Flats new manager will be Eugene Schmitt, currently Acting Deputy Assistant Secretary for the Office of Policy, Planning, and Budget. David reminded the Board the Site also has a new Deputy Manager, thus this will be a period of transition and uncertainty. Third, David stated DOE and Kaiser-Hill had finished processing residues, which is a significant milestone in the cleanup of Rocky Flats. Fourth, he discussed the Coalition endstate vision and the need to determine if the Board has unanimity of thought on how, and if, to proceed. David said the staff feels confident about making endstate recommendations for surface soils, the water quality monitoring regime, and long-term stewardship. However, there is less confidence about subsurface issues, specifically regarding a threshold level, surface depth, and process waste lines. He stated he would like to have the Board's agreement on endstate at the July meeting, if possible. Hank Stovall said the Board needs to remain fully engaged so the Site understands the Coalition's expectations from cleanup to endstate, although the Site must still explain the level of risks and tradeoffs. Lisa Morzel agreed, and said she wants more information on the issues David cited as well as information on subsurface exposure over time. Jane Uitti spoke on behalf of Paul Danish, and said Paul had expressed discomfort over the Board making technical recommendations without more information. He had suggested making the recommendations more general and leaving the technical decisions to the federal agencies. Ken Fellman said the Board had received sufficient information on surface, water quality and stewardship to feel comfortable making recommendations, thus it is feasible the same could happen with subsurface decisions. Sam Dixon agreed. David said he believed it would be of great value for the Coalition position on endstate to be taken into account before the RFCA parties issue draft RFCA revisions. Lisa asked why a decision had to be made at the July meeting, and David explained the RFCA parties determined this timeline since they are planning on issuing the revised RFCA language the end of July. Steve Gunderson (CDPHE) said the July date is now unrealistic considering the many technical and legal issues to still be determined. He suggested the documents might not be issued until the end of summer. Jeremy Karpatkin (DOE) agreed, but added that it is important to remember that questions will remain for the lifetime of the cleanup project. He said he hopes to have the Coalition recommendations incorporated into the revised RFCA when it goes out for public comment. Tom Brunner said it should go on record that the Board wants to remain engaged in these discussions, and continue the endstate dialogue over the next several months. David said the RFCA parties had obviously changed their timeline, thus the Board would have more time to continue endstate discussions over the next couple months. Hank then provided an idea of how to approach subsurface issues in future discussions.

## **Public Comment**

Laurie Shannon (USFWS) distributed copies of the draft public involvement process plan, and asked for comments on the document by Monday, June 10<sup>th</sup>. They will then incorporate comments and issue a summary of the public process for general public distribution on June 26, 2002, as mandated in the Refuge Act. She also said USFWS had contracted with Shapins and Associates to draft the public process, and they had just awarded two more contracts today for help with facilitating and drafting the Environmental Impact Statement.

## **Rocky Flats Geology - Landslide Briefing**

Ralph Shroba (USGS) and Paul Carrara (USGS) began their briefing by explaining that EG&G had asked the USGS for help characterizing the Site's surficial deposits, meaning the non-bedrock geology. This led to their 1996 geologic map entitled "Surficial Geologic Map of the Rocky Flats Environmental Technology Site and Vicinity, Jefferson and Boulder Counties, Colorado", which they presented to the Board. Geologic categories of interest which they described include artificial fill, colluvium, landslide and slump colluvium, valley fill alluvium, and rocky flats alluvium.

Ralph explained artificial fill is deposits of imported materials made by people with equipment or tools, and he cited the example of the railroad grade from the 1880s. They then described how geologic materials were deposited in channels and along the Rocky Flats surface. Beneath the Rocky Flats surface is a gravelly deposit which is 1 to 10-meters thick, and 30-meters thick in one area, estimated at 0.8 to 2 million years old. Below that is the bedrock, which was deposited tens of millions years ago. The contact between the bedrock and gravel is not smooth and uniform, and has considerable topographic relief.

Ralph and Paul described how the map reveals areas of landslide and slump in nearly all the drainages, recognizable by a curved scarp at the top. Paul said they also suspect older landslides, but they are no longer recognizable since the surface morphology has been subdued by erosion. Ralph explained the claystone and siltstones are prone to sliding, depending on the moisture content and the steepness of the topography. This sliding is an ongoing process, occurring over hundreds of thousands of years, and can be seen in formations 2 million years old as well as the recent artificial fill deposits. Paul said although the slides and slump occur slowly, they can keep backwasting a surface, thus areas of landslide cover approximately 20% of the map, mostly along the northern and southern drainages.

Nanette Neelan asked if the slide activity had any correlation with a fault line. Ralph said the position of the fault runs west of the Site, and there is no evidence of a correlation. He stated what drives the slides is the topography, bedding slopes, moisture content, and slope aspect. For instance, a south-facing slope is usually dryer than a north-facing slope. Ken Fellman asked if the size of landslides vary onsite. Paul said the only evidence of a larger slide is in the southeast section of the Site, where the material is 30-meters deep. Ralph added they estimated thickness by the size of the surface formation and other information, but do not have specific data for the

thickness of the slides. Sam Dixon asked if the underlying formation is exposed when a slide occurs, and Ralph responded not necessarily, since creep can occur over 100 years and be virtually imperceptible. Hank asked if they had the ability to map what the Site might look like in 100 to 1000 years, including the impacts on the Industrial Area. Paul said it would be hard to forecast, and Ralph agreed but added there are models based on assumptions about rate of retreat, moisture, and climate, although climate varies over time and would be a large unknown. Hank then asked if there was any information available to determine the shrink rate of the plateau in the past. Paul said the Rocky Flats surface is 2 million years old. Ralph said if there is a 50 year old aerial photo they might be able to compare that to the current aerial photo; if the erosion rates were excessive it may be possible to see a change in boundaries. Lisa Morzel said once the buildings are removed there will be a big change in hydrology, and she asked how this might impact the slides. Ralph said if there is an increase in moisture there is more sliding, and dryer slopes are more stable, but again, climatic variability is hard to address. Jane Uitti asked if the direction of movement is predictable. Ralph said it is a gravitational feature and would move along the line of slope. He added there are many geologic variables at play. For instance, the capping material is not of uniform thickness and it is possible certain areas have thicker gravel that will help armor and protect from slides, while other areas may have more sand and instability. Lisa asked if it is possible to stabilize potential areas of slide and slump. Ralph answered landslide mitigation is an engineering science unto itself and can involve dewatering, and loading the slope with heavy material, among other things.

Dave Shelton (Kaiser-Hill) presented a map that reflected the aforementioned geology superimposed onto an Individual Hazardous Substance Site (IHSS) map to show areas where the two overlap. The purpose was to graphically show those areas of the Site where slope stability problems may potentially interact adversely with contamination or remediation efforts. Dave pointed out the only areas where potential landslide activity may interfere with subsurface contamination are the Ash Pits, the Original Landfill, and the Present Landfill. Of note is the fact that no landslide deposits have been mapped which coincide with the process waste lines. Dave said they will also need to determine the relationship of areas of contamination with areas of high erosion rates. Like the landslides, erosion rates will vary with slope and moisture content. He stated once the Industrial Area is remediated there will be a rebound in the water table.

Jane asked if the Coalition recommendation should be more general than specific, and include certain caveats contingent upon periodic review of the remedies. Joe Legare (DOE) said the Site would factor in the time period to review the effectiveness of each remedy. Sam asked if the reviews would be conducted in perpetuity, and Joe said they would be conducted indefinitely, unless they determine they are no longer necessary. Lisa asked if it would be possible to compare aerial photos over the last 50 years. Dave said they are available, but said there may be some uncertainty in looking at changes over 50 years and interpolating them to 500 years. He added they would have to decide if the information would be relevant in selecting a remedy.

## **Endstate Conversation - Water Quality Monitoring and Protection**

Melissa Anderson explained that the Site is proposing to change the surface water monitoring regime. The monitoring standard would remain the same, but at Points of Compliance (POC) onsite the standard would be measured with an annual average period as opposed to the current period of 30 days. The averaging period would remain 30 days for POCs at the Site boundaries.

Steve Gunderson (CDPHE) described regulations governing water quality, and began by describing key surface water standards documents, including the Rocky Flats Cleanup Agreement (RFCA)/Action Level Framework (ALF), the Integrated Monitoring Plan, the National Pollutant Discharge Elimination Permit for the water treatment plant, and the Pond Operation Plan. He said the Colorado Water Quality Control Commission established the surface water standard, which is administered by CDPHE, and he noted that Colorado is the only state with a plutonium standard in the country. Steve next explained that a POC is a point on a stream where surface water is sampled and measured against standards. An exceedance would trigger a source evaluation and could trigger penalties. POCs are located at the base of the terminal ponds and at the Site boundary on Walnut and Woman Creeks. Likewise, Points of Evaluation (POE) are points where surface water quality is tested, but an exceedance would not trigger a penalty. The POEs are located above the retention pond systems and at the outfall of the waste water treatment plant.

Steve then described water quality standards. There are approximately 150 non-radionuclide standards based on statewide standards or site-specific standards. The plutonium and americium standard is 0.15 picocuries per liter (pCi/l), and the uranium standard is 10 pCi/l for Walnut Creek and 11 pCi/l for Woman Creek. Every parameter in these surface water standards has a specified measuring period other than radionuclides. The 30-day average adapted for radionuclides is standard methodology used for organic carcinogens. Accordingly, the RFCA parties are informally proposing the following endstate for surface water:

- standard remains at 0.15 pCi/l;
- terminal ponds remain in place (ponds A4, B5, and C2);
- POCs remain at Site boundary and below the terminal ponds;
- keep 30-day moving average for radionuclides at Site boundary POCs;
- establish annual average for POCs onsite; and
- POEs would be replaced by specific monitoring points that would evaluate remedy effectiveness.

Steve noted the water samples collected at the onsite POCs have been consistently below the standard. Nanette Neelan asked why they established POCs onsite, and Steve explained it was a liability concern. He also said the annual average makes sense given that the standard is based on a 30-year exposure. Bob Nininger (Kaiser-Hill) said looking at trends long-term allows them to dampen out seasonality effects and high individual spikes, although they will still have data to look at short-term effects as well.

John Rampe (DOE) described surface water features and management at Rocky Flats. There are approximately five ephemeral/intermittent streams that cross the Site: Rock Creek, North and South Walnut Creeks, Woman Creek and the Smart Ditch Drainage. Walnut Creeks and Woman Creek drain the Industrial Areas and areas of contamination in the Buffer Zone. There are ponds in all the drainages. A number of these ponds were installed to control potential contaminants. Eleven of the ponds are actively managed, meaning that water levels are monitored and water is transferred or released downstream via pumps or gravity. The terminal ponds are managed through "batch and release", allowing the ponds to fill, be sampled, and released when the Site gets the results back. However, there are times when the water must be released prior to receiving lab results for dam safety reasons. Additionally, downstream management includes a bypass of Great Western Reservoir and impoundment at Woman Creek Reservoir. John also provided detailed information on each creek and its contamination sources.

John then cited examples of monitoring results for radionuclides. The monitoring is done on a continuous basis via automated samplers, accounting for differences in flows; the samplers are connected via telemetry, providing staff with remote data access. At POCs, downstream of the ponds, the Site has a strong record of complying with the standard. For example, at GS01 (Woman Creek at Indiana Street) the average concentration since 1997 has been 0.005 pCi/l for plutonium, and 0.004 for americium. At GS03 (Walnut Creek and Indiana Street) concentrations were 0.015 pCi/l for plutonium and 0.011 for americium. John said the concentrations can be higher upstream of the ponds. For instance, at GS10, which drains the central Industrial Area, the average concentrations were 0.127 pCi/l for plutonium and 0.256 for americium. John explained this provides evidence of how effective the ponds are in reducing radionuclide concentrations.

John stated the Site is engaged in studies that will define water management, to control contaminants, after closure. He explained flows will be reduced at closure because water will no longer be imported or discharged through the sewage treatment plant, and impervious areas will be replaced by grassland. The effects will be much more noticeable in the Walnut Creek drainage than in Woman Creek. John concluded by saying the Site believes there will still be a need for controls like ponds and ditches, but hopes that reduced flows will allow the controls to be effective in a passive operating mode.

Hank Stovall asked about the capacity or acre-feet of the A and B series ponds. John said the capacity of pond A4 is approximately 34 million gallons, and B5 is approximately 20 million gallons. Hank said the ponds provide flood control and Broomfield does not want to see them eliminated. John agreed the ponds help to control water quantity as well as quality.

Jeremy Karpatkin (DOE) presented a flowchart illustrating the development of the integrated endstate approach thus far. He highlighted key policy issues still to be determined, including the identification of the risk-plus cleanup considerations, and a description of post-closure stewardship implementation. Key technical issues will include surface depth, the risk screening process, and soil stability. David Abelson said this water quality regime would meet the Board's

core interest of ensuring that water leaving the Site will continue to meet the water quality standard.

### **Round Robin**

**Arvada** - Clark Johnson asked David when he would send the governments a letter regarding local government contributions to Coalition funding. David responded it had already been sent to the attention of each Director on May 13<sup>th</sup>.

**Westminster** - Sam Dixon said Westminster may be writing a letter to Jessie Roberson regarding DOE's personnel changes and the loss of Barbara Mazurowski as Rocky Flats' manager. She said this is a critical time to have someone new take over. Nanette Neelan said when the Coalition spoke with Jessie in March she had indicated this might happen. Hank Stovall said Barbara Mazurowski had done a good job, but DOE management made the changes for a reason, and he would not question them.

### **Public Comment**

There was no further public comment.

### **Big Picture**

David Abelson reviewed the Big Picture. At the July meeting the Board will continue the endstate discussion with a briefing on subsurface issues. There will also be a presentation from U.S. Fish and Wildlife Service on determining compatible uses while developing the Comprehensive Conservation Plan.

The meeting was adjourned by Sam Dixon at 11:24 a.m.

Respectfully submitted by Kimberly Chleboun, Program Manager

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