Improving the State Superfund Process

House Joint Resolution 34

EQC Study Report
November 2006

prepared by Todd Everts, Legislative Environmental Analyst

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1: EQC Study of the State Superfund Process

Introduction

Concern that Superfund sites across Montana have serious impacts on communities and community infrastructure and the need for timely Superfund site cleanups led the Legislature to adopt House Joint Resolution 34 during the 2005 session. HJR 34 was assigned to the Environmental Quality Council (EQC). The resolution requests that the EQC:

(1) inventory and establish a comprehensive list of:
    (a) Superfund sites located in Montana;
    (b) the current status of cleanup efforts;
    (c) the decision documents describing site remediation for each site in Montana; and
    (d) the proposed timeframe for completing the cleanup efforts;
(2) provide alternatives for communities faced with untimely cleanup of Superfund sites;
(3) summarize water, infrastructure, and economic development needs of communities directly affected by Superfund site listings;
(4) identify education alternatives for Superfund site impacts on local communities; and
(5) develop a process for improving communication between local, state, and federal governments when addressing Superfund issues.

At the May 2005 EQC meeting, the Council assigned this study to the EQC Agency Oversight Subcommittee. The EQC allocated .2 FTE of staff resources for this topic. Although limited resources were devoted to HJR 34, the EQC Agency Oversight Subcommittee was able to address most, but not all, of the study tasks requested in HJR 34. The Subcommittee did, however, go beyond the resolution to evaluate options to generally improve the state Superfund process.

The EQC HJR 34 Study Process

The EQC Agency Oversight Subcommittee developed an interim work plan that identified specific study tasks that needed to be completed during the interim. Figure 1-1 outlines the EQC's 2005-06 interim HJR 34 study process.

Figure 1-1. EQC HJR 34 Study Process

May 2005

- Create Agency Oversight Subcommittee
- EQC Work Plan and Resource Allocations

September 2005

- Subcommittee Work Plan:
  - EQC Agency Oversight Subcommittee Adopts Interim Work Plan
- Information Gathering and Analysis:
  - Bill Sponsor Addresses Subcommittee on the Intent of HJR 34
  - The DEQ Presents Information Responding to HJR 34 Study Elements
  - Orphan Share Account Update
  - Mike Horse Mine Complex Update

January 2006

- Information Gathering and Analysis:
  - EPA Presents Information Responding to HJR 34 Study Elements
  - Bozeman Solvent Site Panel Discussion
  - Burlington Northern Livingston Panel Discussion
  - Brewery Flats Panel Discussion

March 2006

- Information Gathering and Analysis:
  - Lockwood Panel Discussion
  - S&W Sawmill Facility Panel Discussion
  - Rimini-Tenmile Panel Discussion
- Subcommittee Direction on the Draft Report
- DEQ Presentation on Resource Comparison from Other States
- DEQ Presentation on Elements of the State Superfund Process

April 2006

- Conference Phone Subcommittee Meeting to Discuss Draft HJR 34 Report

May 2006

- Subcommittee Review of Draft HJR 34 Report
- Subcommittee Discussion and Decisions on Preliminary Findings, Recommendations, and Legislation (if any)

June 2006

- Send Out Draft HJR 34 Report for 30-Day Public Comment Period

July 2006

- Compile Public Comments
- Final EQC Agency Oversight Subcommittee Decision on any Findings, Recommendations, and Legislation (if any) to the EQC
- Subcommittee Briefs EQC on the Recommendations and the HJR 34 Study Report

September 2006

- Final Decision by the EQC on the Study Report and Recommendations, Including Content of Proposed Legislation (if any)
- Selection of Bill Sponsors if Needed and Development of Session Strategy

The EQC Response to HJR 34

With the adoption of HJR 34, the Legislature requested that the EQC complete a number of study tasks. In addition, the EQC adopted its own study goals and tasks. These study goals and tasks and how the EQC responded to them are set out below.

Study Goals:

HJR 34 Goal: Assist Montana communities in dealing with the serious impacts of Superfund sites.

✔ EQC Response: The EQC, in conjunction with the interested and affected parties of the Superfund process, generated information through panel discussions, solicitation of issues and suggested improvements, and staff research and analysis to attempt to assist communities dealing with serious impacts of Superfund sites. This report is the EQC's response to addressing this study goal.

EQC Goal: Evaluate and improve the state Superfund process.

✔ EQC Response: **Figure 1-1** sets out the EQC's efforts to openly and comprehensively evaluate and improve the Superfund process. **Chapters 3 through 6 evaluate the state Superfund process. Chapter 7** lists the EQC's findings and recommendations to improve the Superfund process.

HJR 34 - Assigned Study Tasks:

Study Task: That the EQC inventory and establish a comprehensive list of:
(a) Superfund sites located in Montana;
(b) the current status of cleanup efforts;
(c) the decision documents describing site remediation for each site in Montana; and
(d) the proposed timeframe for completing the cleanup efforts.

✔ EQC Response: The EQC generated a map that specifies the location of all Superfund sites in Montana (see Figure 3-1 and see the state CECRA list in Appendix B). The DEQ and EPA websites noted in Appendix C detail the status of cleanup efforts for all Montana sites as well as the decision documents describing site remediation for each site. Specific timeframes for completing cleanup efforts at sites are established in individual remediation plans and decision documents. These timeframes are dependent on the presence or absence of potentially liable persons, size, scope, and complexity of the site and by potential factors outside the control of the agency (for example, bankruptcy actions).

Study Task: That the EQC provide alternatives for communities faced with untimely cleanup of Superfund sites.

✔ EQC Response: Timeliness was one of the components that the EQC evaluated with regard to improving the Superfund process. The EQC determined that mandated timeframes for processing voluntary cleanups provide incentives for potentially liable persons to consider voluntary cleanup actions. For some sites, communities may be eligible to seek resources for cleanup actions from various state and federal grant programs. Recommendations for improving timeliness can be found in Chapter 7.

Study Task: That the EQC summarize water, infrastructure, and economic development needs of communities directly affected by Superfund site listings.

✔ EQC Response: The EQC did not have the time or resources to address this study task. However, the EQC did determined that the DEQ requires timely interim actions when impacts to community infrastructures create threats to human health.

Study Task: That the EQC identify education alternatives for Superfund site impacts on local communities.

✔ EQC Response: Appendix C inventories websites that have numerous education mechanisms for Superfund impacts on local communities. See also Chapter 7 regarding EQC findings and recommendations.

Study Task: That the EQC develop a process for improving communication between local, state, and federal governments when addressing Superfund issues.

✔ EQC Response: See Chapter 7 regarding EQC findings and recommendations.

Study Task: That all aspects of the study, including presentation and review requirements, be concluded prior to September 15, 2006, and that the final results of the study, including any findings, conclusions, comments, or recommendations of the EQC, be reported to the 60th Legislature.

✔ EQC Response: This report document fulfills this study task.

EQC - Assigned Additional Study Tasks

Study Task: Ask the DEQ and EPA to provide information on whether current information exists to fulfill the HJR 34 study tasks.

✔ EQC Response: The DEQ and EPA made presentations before the Subcommittee in September 2005 and January 2006.

Study Task: Conduct panel discussions of stakeholders on a cross-section of state and federal Superfund sites in Montana to gather information to evaluate the state Superfund process.

✔ EQC Response: The EQC selected a combination of six state and federal sites for panel discussions. See Chapter 4.

Study Task: Conduct an in-depth survey of stakeholders from selected Superfund sites to evaluate the state Superfund process.

✔ EQC Response: The EQC worked with the University of Montana to conduct a survey of stakeholders from six Superfund sites. Chapter 6 summarizes the findings of that survey.

What Is Not Addressed in This Study?

The HJR 34 Study does not address hazardous waste sites outside of those sites designated under the 1989 state Comprehensive Environmental Cleanup and Responsibility Act (CECRA) or sites designated under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, Public Law 96-510.

The DEQ conducts other cleanup activities that are not addressed in this report. Those activities include but are not limited to petroleum releases from storage tank systems and abandoned mine reclamation projects.

2: Overview of the State Superfund Process

Introduction

The state Superfund process is extremely complex. At the request of the Subcommittee, the Department of Environmental Quality (DEQ) provided the Subcommittee with a detailed explanation of how the state Superfund process works and how the state and federal Superfund processes are interrelated.[1] This chapter provides a simplified and hopefully easy-to-understand explanation of the state Superfund processes.

What Is Superfund?

Among the issues at the forefront of environmental concern is the cleanup of hazardous substances. The Superfund program is responsible for investigation and cleanup of hazardous substances.

Congress created the federal Superfund program in 1980 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to address the nation's most contaminated sites. In 1989, the Montana Legislature passed the Comprehensive Environmental Cleanup and Responsibility Act (CECRA) for the investigation and cleanup of those sites not being addressed by the federal Superfund law.

What Is the Legislative History of Montana's Superfund Process?

The 1985 Montana Legislature passed the Environmental Quality Protection Fund Act. This Act created a legal mechanism for the Department of Health and Environmental Sciences (now DEQ) to investigate and clean up, or require liable persons to

[1] The descriptions of the state Superfund process and how it works covered in this chapter were taken sometimes verbatim with permission from handouts provided by the DEQ staff (Denise Martin and Sandi Olsen), from a 1996 DEQ Superfund overview document, and from the DEQ website.

investigate and clean up, hazardous or deleterious substance facilities in Montana. The 1985 Act also established the environmental quality protection fund (EQPF). The EQPF is a revolving fund in which all penalties and costs recovered pursuant to the EQPF Act are deposited. The EQPF can be used only to fund activities relating to the release of a hazardous or deleterious substance. Although the 1985 Act established the EQPF, it did not provide a funding mechanism for the Department to administer the Act. Therefore, no activities were conducted under this Act until 1987.

The 1987 Montana Legislature passed a bill creating a delayed funding mechanism that appropriated 4% of the resource indemnity trust (RIT) interest money for Department activities beginning in July 1989 (15-38-202 , MCA). In October 1987, the Department began addressing state Superfund facilities. Temporary grant funding was used between 1987 and 1989 to clean up two facilities and rank approximately 250 other facilities. Beginning in fiscal year 1995, the 4% allocation was changed to 6% to adjust for other legislative changes in RIT allocations. Effective July 1, 1999, the 6% allocation was increased to 9% to ensure that the EQPF was held harmless by reductions of the net funding coming into the RIT.

The 1989 Montana Legislature significantly amended the Act, changing its name to the Comprehensive Environmental Cleanup and Responsibility Act (CECRA) and providing the Department with similar authorities as provided under the federal Superfund Act (CERCLA). With the passage of CECRA, the state Superfund program became the CECRA program. Major revisions to CECRA did not occur until 1995, when the Voluntary Cleanup and Redevelopment Act (VCRA), a mixed-funding pilot program, and a requirement to conduct a collaborative study on alternative liability schemes were added and provisions related to remedy selection were changed. Based on the results of the collaborative study, the 1997 Legislature adopted the Controlled Allocation of Liability Act, which provides a voluntary process for the apportionment of liability at CECRA facilities and establishes an orphan share fund. Minor revisions to CECRA were also made by the 1999, 2001, 2003, and 2005 Legislatures.

What Triggers the Superfund Process?

The federal and state Superfund laws apply to sites where a release or a threatened release of a hazardous substance exists. In Montana, the majority of these releases have occurred at sites where mining, smelting, wood treating, railroad fueling and maintenance, petroleum refining, landfilling, and chemical manufacturing/storage activities were conducted. Historic waste disposal activities at these sites caused contamination of air, surface water, ground water, sediments, and/or soils with hazardous substances. This contamination has caused, or may cause, public health impacts such as contaminated drinking water and ecological impacts such as impacts to fisheries. Typically, state and federal Superfund laws are not applied to permitted facilities if releases of hazardous substances are within the scope of a permit or corrective action under a permit.

Who Conducts Superfund Activities?

The Montana Department of Environmental Quality (DEQ) was created in July 1995 and comprises programs from the former Departments of Health and Environmental Sciences (DHES), State Lands, and Natural Resources and Conservation. All Superfund activities conducted before July 1995 were under the auspices of the DHES. For this report, all activities of the DHES are credited to the DEQ.

The DEQ works closely with the United States Environmental Protection Agency (EPA) at federal Superfund sites. At each federal Superfund site, either the EPA or the DEQ has the “lead” or primary responsibility for site activities and decisions. There are 15 National Priorities List (NPL) sites in Montana.

The 293 state sites in Montana are addressed under CECRA and are referred to in this report as "CECRA sites." The DEQ has responsibility for ensuring investigation and cleanup at CECRA sites.

The DEQ Superfund professional staff has knowledge and skills in diverse fields including environmental engineering, hydrogeology, environmental law, chemistry, biology, soil science, risk assessment, data management, and public relations. The DEQ's Superfund staff currently consists of 4 FTE managerial/coordinator positions, 19 FTE scientists/engineers, 4 FTE attorneys, 0.8 FTE data management specialists, and 5.38 FTE support employees.

A CECRA cleanup may be conducted by the DEQ or by the parties responsible for the contamination, either voluntarily or under an enforceable legal agreement with the state. When the government cleans up the site, it may require the responsible parties to pay the actual investigation and cleanup costs, plus penalties of up to two times the state's costs. The DEQ closely oversees and directs the entire process, and the responsible parties pay for the DEQ's oversight costs. Cleanups at most federal CERCLA sites in Montana are being conducted by responsible parties under enforceable legal agreements with either the EPA or the DEQ.

Typically, the CECRA program does not address a site until it has been evaluated under the federal Superfund process and found ineligible for the list of federal Superfund sites (NPL). In addition to sites not eligible for the federal list, the CECRA program addresses sites not qualifying under the federal Superfund program because of an exclusion or other factors. Some petroleum sites fall into this category. CECRA also addresses sites which may be in the process of federal Superfund designation but need immediate action. CECRA addresses some sites without going through the CERCLA site evaluation process when the site or its impact is obviously too small to qualify it for the NPL. CECRA also addresses sites where an entity chooses to clean up the site voluntarily.

How Are State Superfund Sites Prioritized?

The DEQ has adopted administrative rules (ARM 17.55.111) that set out a process for designating and ranking sites as "maximum priority", "high priority", "medium priority", "low priority", and "operation and maintenance".[2] The ranking distinctions are:

[2] For a detailed explanation on how the DEQ ranks sites, see Appendix A.

- ✓ Maximum Priority = Immediate threat requiring immediate action.
- ✓ High Priority = Significant near-term threats requiring prompt action.
- ✓ Medium Priority = Potential long-term threat requiring action.
- ✓ Low Priority = Minimal potential for long-term threat.
- ✓ Operation and Maintenance = Remedial actions are complete but the facility is undergoing operation and maintenance such as monitoring, revegetation, etc.

How Does the Superfund Process Work?

Investigation of a Superfund site can be complex, thorough, and detailed. This is because a hazardous substance can have significant actual and potential effects on public health and the environment and cleanups can be costly. A Superfund investigation must also be legally defensible if the parties responsible for paying cleanup costs or others decide to challenge the DEQ findings in court or seek contributions from other responsible parties.

The following is a brief description of the steps in the Superfund process. These steps apply to federal and CECRA (state) sites not undergoing voluntary cleanup.

Prioritization & Initial Investigation: The DEQ evaluates sites where hazardous or deleterious substances may have been released and determines the priority for further action. Some sites may go through the federal Superfund site process for initial investigation to determine if contamination is present at levels that require additional evaluation and if the site has the potential to be a federal Superfund site. Only a few sites go on to become federal Superfund sites, and some that could be federal sites remain state Superfund sites. The remaining sites follow the process below.

Identification & Notification: Some sites are cleaned up through the voluntary cleanup program if the cleanup can be completed in 5 years. At other sites, the DEQ conducts a good faith investigation to identify the persons responsible for investigating and cleaning up a contaminated site. This typically includes deed and record searches, seeking information from people that worked at or owned/operated a site, and reviewing historical documents to determine when and how contamination occurred. Then the DEQ officially informs the person that they are responsible and offers the person the opportunity to properly and expeditiously conduct the necessary work. If the person fails to conduct the work, the DEQ may order the person to do the work.

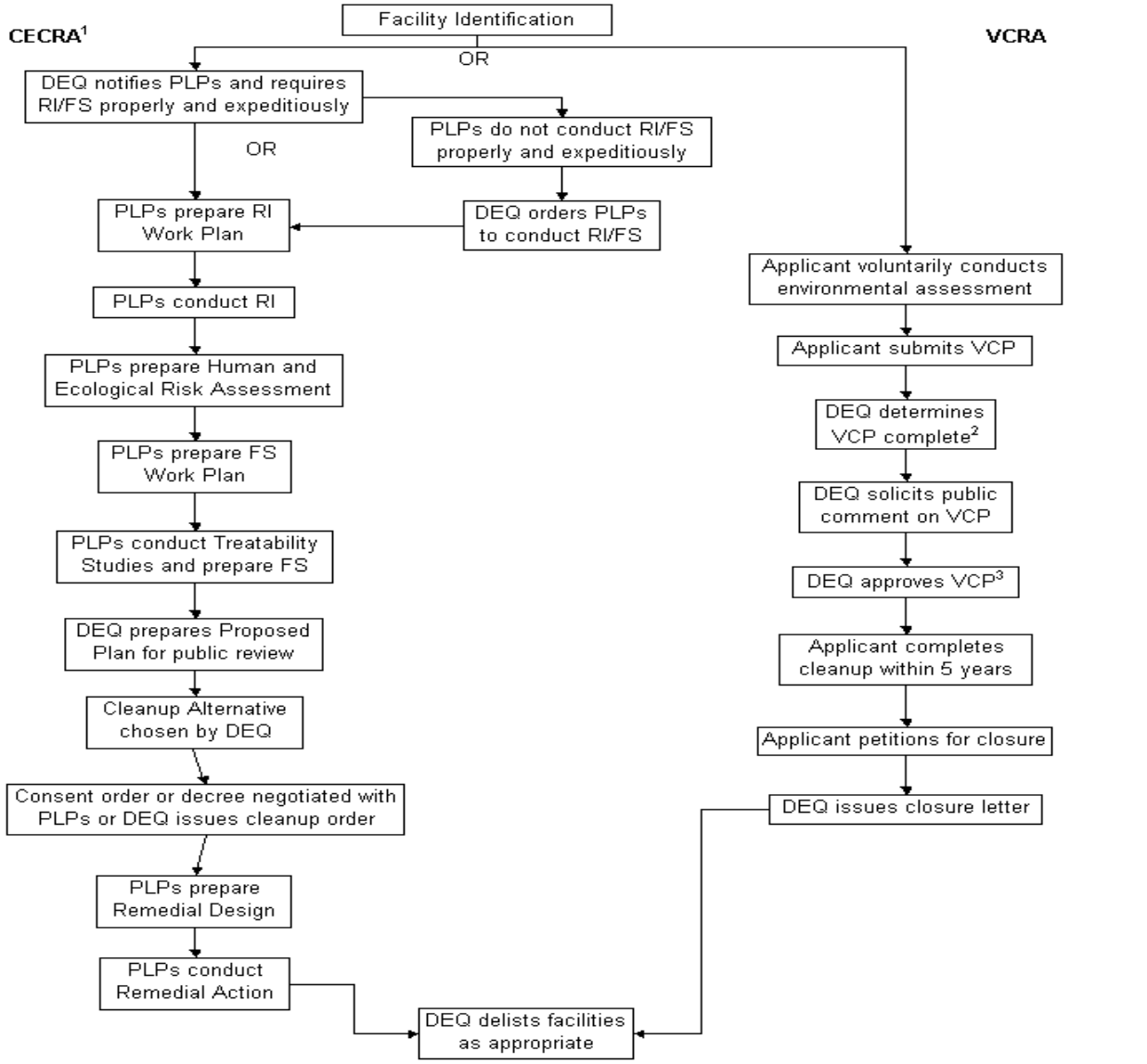
3-Step Investigation: This process is used to determine if and how a site needs to be cleaned up. The responsible person completes these steps. A remedial investigation is performed to determine the full nature and extent of the contamination. A risk assessment evaluates the threats posed to human health and the environment and allows for the development of site-specific cleanup levels. Finally, a feasibility study evaluates the various options for cleaning up the site. The DEQ uses this information to determine if a site needs to be cleaned up, and if so, how it should be done. Interim actions may be conducted at any time during this process (as long as they would not interfere with final cleanup) to quickly reduce the amount of contamination and protect public health.

Determining the Final Cleanup: The DEQ prepares a proposed plan to outline the preferred cleanup option for the site. The public has the opportunity to comment on the preferred cleanup option. The DEQ considers the comments and may revise the final cleanup based upon public comment. The DEQ's determination of the final cleanup for a site is documented in its Record of Decision (ROD).

Implementing the Final Cleanup: Typically, the DEQ and the responsible person negotiate a consent decree or order to implement the cleanup. Engineering design documents are completed and the project is bid. Cleanup continues until contamination no longer poses an unacceptable risk to human health and the environment and compliance with all environmental laws is achieved. The final cleanup is documented in a remedial action report.

No Further Action/Delisting: Once the DEQ determines that all cleanup criteria are met at a site, a no further action letter is issued and the site may be delisted, if appropriate.

Figure 2-1 illustrates the detailed flow of activities in the state Superfund process.



[1] Additional public comment may be solicited, interim actions that are consistent with the final remedy may be conducted, and PLPs may petition for allocation under CALA at any time in the CECRA process.
[2] A VCP may require more than one revision to be deemed complete.
[3] A PLP with an approved VCP may petition for allocation under CALA.

CECRA = Montana Comprehensive Environmental Cleanup and Responsibility Act
VCRA = Montana Voluntary Cleanup and Redevelopment Act
CALA = Montana Controlled Allocation of Liability Act
DEQ = Montana Department of Environmental Quality
RI = Remedial Investigation
FS = Feasibility Study
VCP = Voluntary Cleanup Plan
PLP = potentially liable person

Who Pays for Superfund?

Historically, the federal Superfund law taxed the chemical and petroleum industries and the money in this tax fund is referred to as the "Superfund." Subsequently, that tax expired in 1995 and Congress has provided reduced funding out of the federal general fund. All federal sites are eligible for federal funding. Responsible parties, however, are generally required to perform and pay for cleanup. The DEQ enters into cooperative agreements with the EPA for federal funds to address federal Superfund sites and to assess sites for possible federal listing. These funds are primarily used to oversee and direct the cleanup work of responsible parties. The EPA then recovers both the EPA's and the DEQ's oversight costs from the responsible parties for the sites. Recovered costs are placed back into the Superfund to be used at other sites.

The state is authorized to spend state money to clean up state (CECRA) sites only after determining no responsible parties are able or willing to fund investigation and cleanup. However, there are not sufficient funds to exercise this authority.

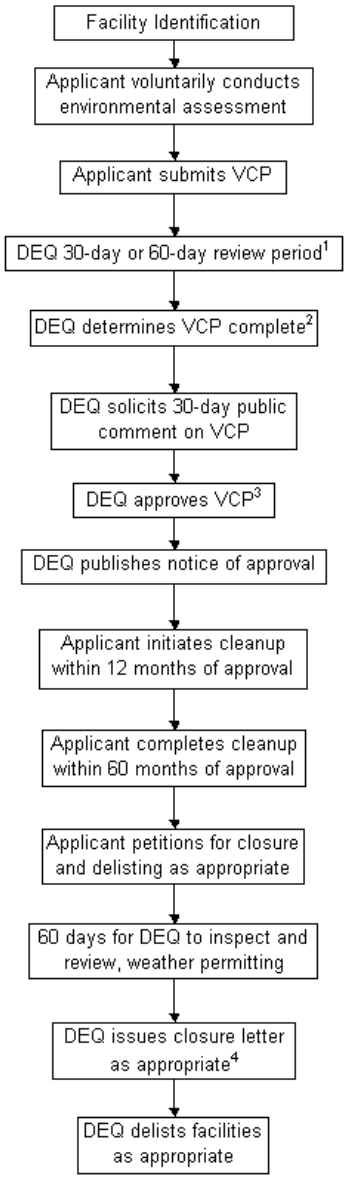
In 1985, the Montana Legislature established the EQPF. The EQPF is a revolving fund in which all penalties, damages, and costs recovered under CECRA are deposited. The EQPF can be used only to fund activities relating to the release of a hazardous and deleterious substance. The 1987 Legislature passed a bill which appropriated 4% (raised to 6% in 1994) of the RIT interest money beginning in July 1989 for the DEQ activities at CECRA sites. Effective July 1, 1999, the 6% allocation was increased to 9% to ensure that the EQPF was held harmless by reductions of the net funding coming into the RIT.

What Is Montana's Voluntary Cleanup Program?

The 1995 Montana Legislature amended the Comprehensive Environmental Cleanup and Responsibility Act (CECRA), creating the Voluntary Cleanup and Redevelopment Act (VCRA) (75-10-730 through 75-10-738, MCA). VCRA formalizes the voluntary cleanup process in the state. It specifies application requirements, voluntary cleanup

plan requirements, agency review criteria and timeframes, and conditions for and contents of no further action letters (see Figure 2-2).

Figure 2-2. VCRA Cleanup Process Flow Chart



DEQ = Montana Department of Environmental Quality VCP = Voluntary Cleanup Plan

[1] Voluntary cleanups requiring less than 24 months require 30-day review; those requiring 24-60 months require 60 days.

[2] A VCP may require more than one revision to be deemed complete.

[3] DEQ may require changes based on public comment prior to approval or may not approve the VCP.

[4] Applicants are required to pay DEQ oversight costs for the voluntary cleanup before DEQ will issue a closure letter.

The act was developed to permit and encourage voluntary cleanup of facilities where releases or threatened releases of hazardous or deleterious substances exist by providing interested persons with a method of determining what the cleanup responsibilities will be for reuse or redevelopment of existing facilities. Any entity (such as facility owners, operators, or prospective purchasers) may submit an application for approval of a voluntary cleanup plan to the DEQ. Voluntary cleanup plans may be submitted for facilities whether or not they are on the CECRA priorities list. The plan must include (1) an environmental assessment of the facility; (2) a remediation proposal; and (3) the written consent of current owners of the facility or property to both the implementation of the voluntary cleanup plan and access to the facility by the applicant and its agents and the DEQ. The applicant is also required to reimburse the DEQ for any costs that the state incurs during the review and oversight of a voluntary cleanup effort.

The act offers several incentives to parties voluntarily performing facility cleanup. Any entity can apply, and liability protection is provided to entities that would otherwise not be responsible for site cleanup. Cleanup can occur on an entire facility or a portion of a facility. The DEQ cannot take enforcement action against any party conducting an approved voluntary cleanup. The DEQ review process is streamlined: the DEQ has 30 to 60 days to determine if a voluntary cleanup plan is complete, depending on how long the cleanup will take. When the DEQ determines an application is complete, it must decide within 60 days whether to approve or disapprove of the application; this 60 days also includes a 30-day public comment period. The DEQ's decision is based on the proposed uses of the facility identified by the applicant, and the applicant conducts any necessary risk evaluation. Once a plan has been successfully implemented and DEQ costs have been paid, the applicant can petition the DEQ for closure. The DEQ must determine whether closure conditions are met within 60 days of this petition, and if so, the DEQ will issue a closure letter for the facility or the portion of the facility addressed by the voluntary cleanup.

The DEQ does not currently have a memorandum of agreement with the EPA for its voluntary cleanup program.

The DEQ has produced a VCRA application guide to assist applicants in preparing a new application; this guide is not a regulation and adherence to it is not mandatory.

As of February 2006, the DEQ listed 36 sites within the VCRA program. The DEQ maintains a registry of VCRA facilities on its website (see also Appendix B).

What Is the Controlled Allocation of Liability Act (CALA) Program?

CALA - Introduction

In 1997, the Montana Legislature added the Controlled Allocation of Liability Act (CALA; 75-10-742 through 75-10-751, MCA) to the Comprehensive Environmental Cleanup and Responsibility Act (CECRA; Title 75, chapter 10, part 7, MCA), the state Superfund law. The DEQ administers CALA, including the orphan share fund it establishes. The following is a brief description of the CALA process.

CALA History

Under both state and federal Superfund, liability is strict, joint, and several (75-10-715(1), MCA). In 1995, the Montana Legislature required a study of joint and several liability. The DEQ formed a study group around four stakeholder caucuses: public and environmental interest groups; potentially liable persons (PLPs), including business and industry; state and federal agencies; and local governments. As a result of the committee's work, two bills were proposed to the Legislature and ultimately, with minor modifications, were passed as CALA.

CALA

CALA is a voluntary process that allows PLPs to petition for an allocation of liability as an alternative to the strict, joint, and several liability scheme included in CECRA. CALA provides a streamlined alternative to litigation that involves negotiations designed to allocate liability among persons involved at facilities requiring cleanup, including

bankrupt or defunct persons. Cleanup of these facilities must occur concurrently with the CALA process, and CALA provides the funding for the orphan share of the cleanup. Since CECRA cleanups typically involve historical contamination, liable persons often include entities that are bankrupt or defunct and not affiliated with any viable person by stock ownership. The share of cleanup costs for which these bankrupt or defunct persons are responsible is the orphan share. The DEQ represents the interests of the orphan share throughout the CALA process.

The Orphan Share Fund

The funding source known as the orphan share fund is a state special revenue fund created from a variety of sources. These include additional funds from the resource indemnity trust fund and 25% of the resource indemnity and ground water assessment taxes (which will increase to 50% when the RIT reaches $100 million). The current balance of the orphan share fund is around $4 million, and revenues projected for the rest of this biennium are about $2 million.

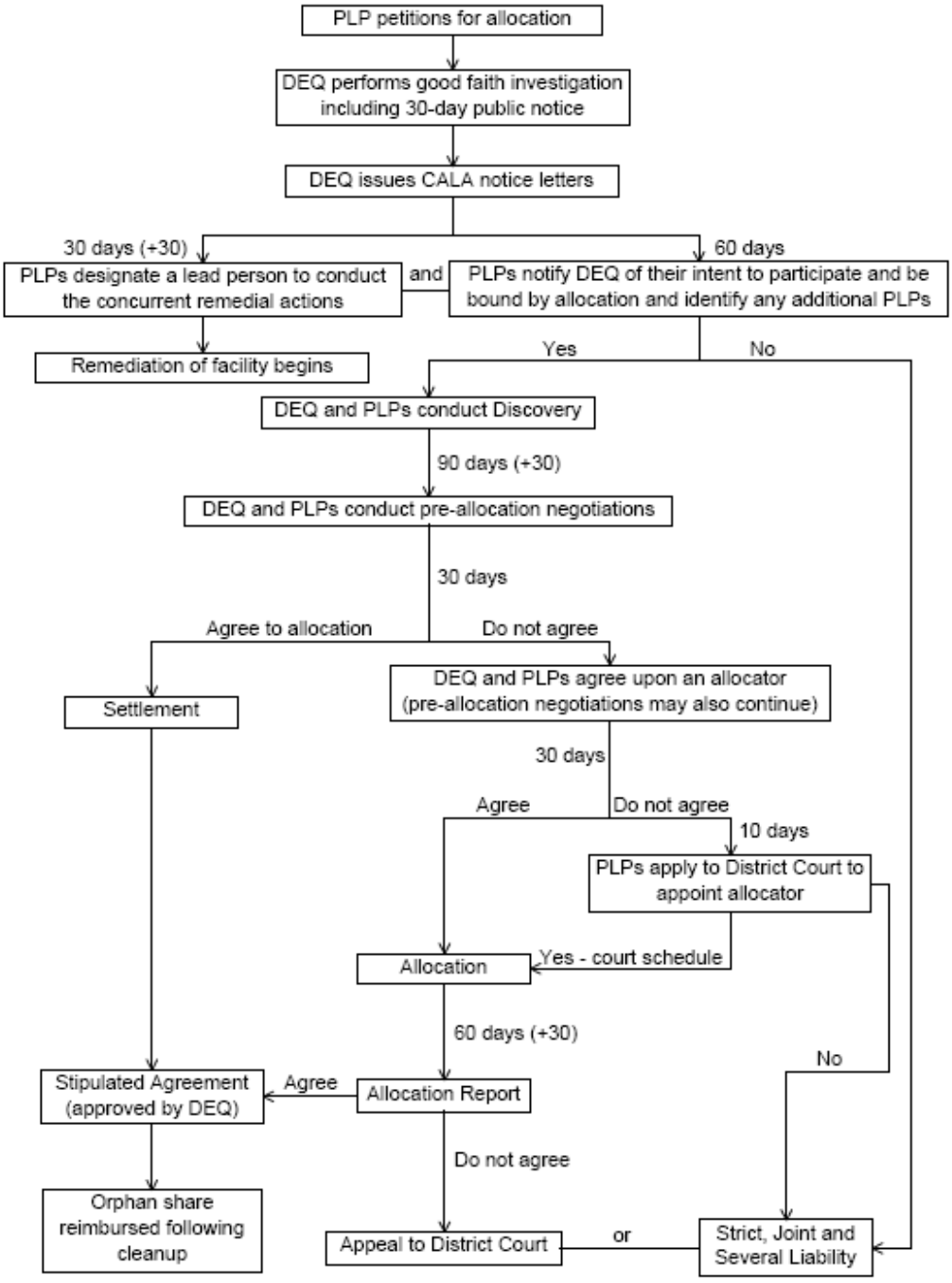
In the absence of a demonstrated hardship, claims for orphan share reimbursement may not be paid until the cleanup is complete. This ensures that facilities are fully remediated before reimbursement. The result is that a PLP could be expending costs it anticipates being reimbursed for some time before the PLP actually is reimbursed.

The CALA Process

CALA was designed to be a streamlined, voluntary allocation process. For facilities where a PLP does not initiate the CALA process, strict, joint, and several liability remains. Figure 2-3 is a flowchart outlining the basic CALA process. The flowchart does not include some details like the additional 15 days the PLPs have to designate a lead person if the DEQ rejects their original choice. However, the flowchart does provide all the major steps in the CALA process. Any person who has been noticed as being potentially liable as well as any potentially liable person who has received approval of a voluntary cleanup plan can petition to initiate the CALA process. CALA includes fourteen factors to be considered in allocating liability. Based on these factors,

causation weighs heavily in allocation but is not the only factor considered. The process contains numerous checks and balances to ensure the use of the funds is not abused. See Figure 2-3 below.

The Controlled Allocation of Liability Act (CALA) Process



3: Montana Superfund Statistics

Superfund Sites by the Numbers

As Figure 3-1 illustrates, Montana's landscape is dotted with federal and state Superfund sites. The basic numbers are as follows:

Number of CECRA sites since inception of the program = 293

Number of current CECRA sites = 210

Number of delisted CECRA sites = 83

Number of current maximum priority CECRA sites = 6

Number of current high priority CECRA sites = 50

Number of current medium priority CECRA sites = 76

Number of current low priority CECRA sites = 54

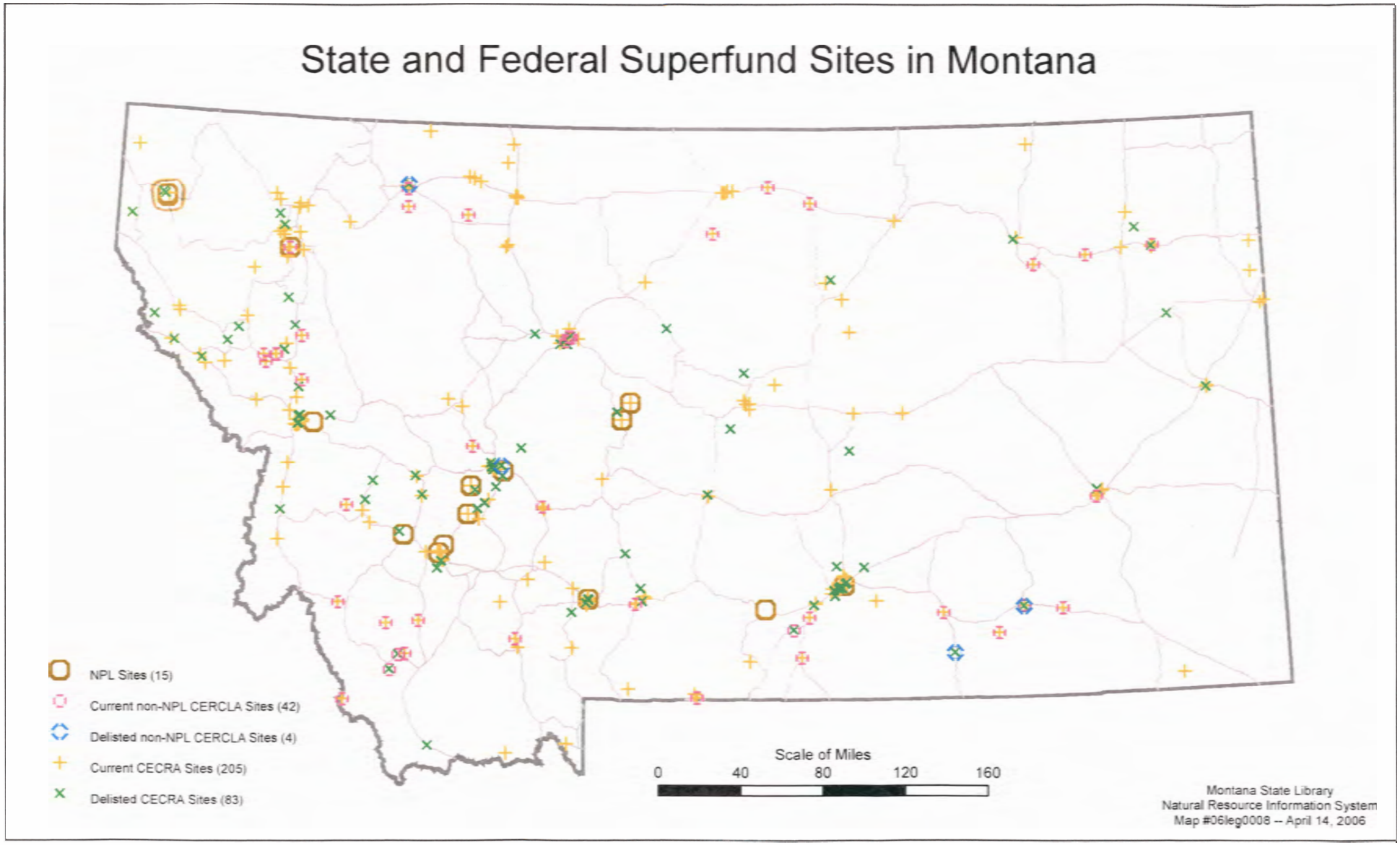
Number of current operation and maintenance CECRA sites = 1

Number of current no further action CECRA sites = 5

Number of current referred priority CECRA sites = 18

Number of current federal National Priorities List sites = 15

Figure 3-1


State and Federal Superfund Sites in Montana
NPL Sites (15)
Current non-NPL CERCLA Sites (42)
Delisted non-NPL CERCLA Sites (4)
Current CECRA Sites (205)
Delisted CECRA Sites (83)
Scale of Miles
0
40
80
120
160
Montana State Library
Natural Resource Information System
Map #06leg0008 -- April 14, 2006

Sites Listed and Delisted by Year

Table 3-1 breaks out the state CECRA sites listed and delisted by year. In 1996, an inordinately large number of sites (66) were delisted. According to the DEQ, a full-time staff person in 1996 was assigned to review all of the listed site files to determine whether each individual site was appropriately listed. The result of that effort was an administrative housecleaning that delisted most of those 66 sites. A number of the sites should have never been listed in the first place based on a number of factors, including information gaps and the fact that some sites were being addressed by other cleanup programs. Some sites had been previously cleaned up through voluntary efforts.

Table 3-1: CECRA Sites Listed and Delisted by Calendar Year

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
Total Listed	287	1	4	0	0	1	0	0	0	0	293
Sites Delisted	69	5	1	1	1	2	0	0	3	1	83
O&M Actions	0	0	1	0	0	0	0	1	1	0	3
NFA	44	4	1	1	1	2	0	0	3	1	57(-5)
Referred	47	0	0	0	0	0	1	0	0	0	48

Table 3-2: CERCLA NPL Sites Listed and Delisted by Calendar Year

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
Total Listed	7	0	0	2	1	2	1	1	0	0	15
Sites Delisted	0	0	0	0	0	0	0	0	0	0	0
O&M Actions	3	0	0	1	0	0	0	0	0	0	4

Superfund Site Activity Numbers

Table 3-3 provides a year-by-year comparison of the number of state CECRA activities conducted at CECRA sites. Table 3-4 provides a yearly comparison of activities conducted on NPL sites. This data represents a snapshot in time, and the information changes as the databases are updated.

Table 3-3: State CECRA Activities by Calendar Year

2006 Summary of CECRA ACTIVITIES conducted at CECRA sites, by Calendar Year

This table does not reflect ongoing oversight activities at maximum and high priority sites and for voluntary cleanups – it only accounts for Actions Completed. Terminology is defined below.

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
RI/FS CECRA	193	12	11	10	9	5	9	4	5	1	259
RI/FS VCRA	29	1	0	2	0	1	0	0	1	0	34
Interim Actions CECRA	29	2	4	3	6	3	0	1	2	0	50
Interim Actions VCRA	7	4	1	3	1	0	0	0	1	0	17
ROD- CECRA	21/0	2/0	2/0	1/1	2/0	2/0	1/1	2/0	0/0	0/0	33/2
ROD – VCRA	9	3	11	4	1	1	0	0	1	0	30
Other	29	9	9	6	7	3	3	4	5	2	43
Total Actions	317	33	38	30	26	15	14	12	14	3	502

This table is based on the DEQ database which has evolved over time. Different compilers have used different assumptions or terminology resulting in different "lumping and splitting" of the data from report to report. When work load allows – there will be a reconciliation of data and the associated terminology through time. Previous tables (esp. 1996) have not separated the subset of VCRA reviews from CECRA reviews because VCRA was not established until 1995.

The following categories of data from the 2006 database have been combined to generate this table:

RI/FS includes environmental assessments, expanded site investigations, feasibility studies, follow-up site investigations, health risk assessments, preliminary, screening, and initial investigations, remedial investigations, site investigations and treatability studies.

Interim Actions includes interim actions, site fencing, security fence construction, and removals.

ROD includes remedial actions- separated at CECRA sites as RA#/ROD#.

Other includes not specified, inspections, ownership investigations, oversight, hazard rank scoring, remedial design, sampling events, cleanup plans, and work plans.

Table 3-4: Federal CERCLA Activities by Calendar Year

2006 Summary of CERCLA ACTIVITIES conducted at NPL sites, by Calendar Year

This table does not reflect ongoing oversight activities at maximum and high priority sites and for voluntary cleanups. – it only accounts for Actions Completed. Terminology is defined below.

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
Total Listed	7	0	0	2	1	2	1	1	0	0	14
Sites Delisted	0	0	0	0	0	0	0	0	0	0	0
O&M Actions	3	0	0	1	0	0	0	0	0	0	4

Actions – Calendar Year	1989 -1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1989-2005
RI/FS CERCLA	20	1	0	0	0	0	1	2	4	0	28
Interim Actions CERCLA	0	0	1	2	1	0	0	1	2	1	8
ROD- CERCLA*	15	1	2	0	1	2	1	2	2	1	27
Other	1	0	1	1	1	0	0	0	0	0	4
Total Actions											85

***ROD** includes records of decision as well as construction completion, remedial actions and remedial designs

RI/FS includes remedial investigations and feasibility studies as well as expanded site investigations, health risk assessments, initial investigations, preliminary investigations, screening site investigations and site investigations and treatability studies; and proposed plans.

interim actions include emergency actions and removals as well as ATSDR consultations.

Other includes hazard tank scoring, unspecified actions.

O& M Actions include 5-year reviews – conducted 5 years after remedial action construction is complete.

The database used to generate the table of federal actions is incomplete.

4: Six Detailed Case Studies

Introduction

Early on in the HJR 34 study process the EQC Agency Oversight Subcommittee made a decision to select a diverse cross-section of state and federal Superfund sites for detailed study and deliberation. The Subcommittee held panel discussions with stakeholder participants on six sites. Those sites included:

* Bozeman Solvent Site
* Burlington Northern Livingston Site
* Brewery Flats Site in Lewistown
* Lockwood Site
* S&W Sawmill Site in Darby
* Rimini-Tenmile Site

Panel participants generally included the following stakeholders: a DEQ or EPA project manager, a local government representative, potentially liable person (PLP) representatives, a citizens' group representative, an environmental consultant representative, and a local government representative. Each stakeholder panelist was asked to address the following questions to stimulate discussion:

1. What has been your experience regarding the site cleanup process (good, bad, indifferent)?

2. Given your experience with this site, what policy and/or implementation suggestions do you have regarding improving the state Superfund process?

3. What advice would you give a local community that just found out that they had a Superfund site within their jurisdiction?

The Subcommittee also requested that the University of Montana conduct a detailed survey of a broad list of stakeholders affiliated with each of the six sites. The Subcommittee generated a list of survey questions that were used by the University

(see Chapter 6). During the public comment period on this report, certain parties disagreed with certain statements/perceptions made by other stakeholders as paraphrased in this chapter. Where appropriate, those disagreements are footnoted. A complete copy of the public comments received is in Appendix E.

Bozeman Solvent Site

Site Quick Facts	
Date Listed:	March 9, 1994
Date Delisted:	NA
Priority:	Maximum Priority Site
RI:	Yes (Start date: 09/11/96; end date: 10/04/99)
FS:	No
ROD:	No
# of Interim Cleanup Actions:	6
Number of Project Officers:	5

Site Description and History[3]

Bozeman Solvent Site (BSS), originating at 1625 West Main Street in northwest Bozeman, is a residential and commercial area with an approximately 700-acre contaminated ground water plume. Leakage of chlorinated solvents, including tetrachloroethene (PCE), trichloroethene (TCE), and dichloroethene (DCE) from the Buttrey Shopping Center (BSC) septic system and sewer line are possible sources of contamination. A dry cleaning facility at the shopping center and two automotive repair facilities were connected to the same sewer line/septic system.

[3] DEQ staff authored the site description and history narrative sections for the state lead sites covered in this chapter. EPA staff authored the site description and history narrative for the Rimni-Tenmile site in this chapter.

Soil contamination occurs at approximately 10 feet below ground surface and deeper in the septic and sewer line area. Ground water is shallow and is contaminated for approximately 2.75 miles north of the BSC, to the East Gallatin River. Deeper portions of the aquifer are also contaminated.

The BSC includes a variety of active commercial facilities and is surrounded by commercial and residential areas. About one-half of the area over the plume is on city water supply, which comes from surface water and is not affected by the contamination. The other half of the area uses ground water wells. Public water supplies and private drinking water wells in the latter area are contaminated. Liable parties for the site are providing alternate water to affected users. Vapors from contaminated soils and ground water have not been found to migrate into buildings.

In 1989, sampling by the Montana Department of Health and Environmental Sciences (DHES) Water Quality Bureau (WQB) identified a public water supply well contaminated with PCE, TCE, and DCE. Subsequent 1989 and 1990 sampling by WQB indicated the BSC septic system/sewer line was a possible source of contamination.

In 1990, DHES prepared a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) preliminary assessment to evaluate the National Priorities List (NPL) eligibility of the site. Further CERCLA investigation was recommended.

In 1992, DHES conducted a CERCLA site inspection to determine the NPL eligibility of the site by determining background ground water quality and contaminant levels in drinking water wells and providing adequate quality assurance and quality control to substantiate previously collected data. The EPA subsequently recommended that a hazard ranking system package be prepared for the site. The BSS continues under the state Superfund process with a "maximum priority" status. The BSS remains on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, and the EPA has not declared the site "no further action."

Also in 1992, as required by DHES legal order, the consultant for Skaggs Alpha Beta and Jewel Companies, Inc. (collectively known as American Stores) removed the septic tank and its contents, installed a vapor extraction system to remediate contaminated soil near the septic system, provided bottled water to people with impacted drinking water wells, and monitored ground water quality for 1 year.

In 1993, liable parties initiated voluntary actions to identify other possible sources and investigate the extent of ground water contamination. As required by a second DHES legal order, American Stores and the city of Bozeman provided permanent alternate water to some people whose drinking water was contaminated. This action is ongoing with the extension of city water to the North 19th Street Interchange area and along Frontage Road. In addition, the order required continued quarterly ground water monitoring.

In 1994, DHES and American Stores conducted an irrigation study to determine the impact of irrigating lawns and gardens with contaminated ground water. DHES conducted follow-up sampling. The city of Bozeman voluntarily replaced the sewer line at BSC.

In 1995, liable parties conducted additional investigations for private litigation purposes, including sampling of sewage effluent and installation of additional monitoring wells. In December 1995, the city of Bozeman voluntarily installed another soil vapor extraction system to remediate contaminated soils adjacent to the old sewer line. The system has recovered 144 pounds of solvents to date and is pulsed periodically. In June 1995, the city of Bozeman voluntarily prepared a data summary report.

In 1995, some citizens filed a "notice of intent to sue" under the citizens' suit provisions in CERCLA and the Resource Conservation and Recovery Act (RCRA). The citizens are seeking reimbursement for their expenses (i.e. connection to city water) related to their wells becoming contaminated. One of the liable parties has settled with the citizens.

In March 1996, the DEQ, formerly DHES, initiated negotiations with American Stores (also called Jewel Food Stores, Inc.) and the city of Bozeman for an administrative order on consent to perform the remedial investigation (RI) and feasibility study (FS) for the site. Negotiations with both parties failed. In July 1996, the city of Bozeman entered into a memorandum of agreement with the DEQ to perform the RI and FS. RI sampling was conducted during the fall of 1996. In December 1996, a technical advisory committee was established to oversee the RI ground water modeling effort.

In 1997, the city of Bozeman submitted a RI report and a draft feasibility study work plan. In August 1997, the Gallatin City-County Board of Health petitioned the Montana Department of Natural Resources and Conservation (DNRC) for a ground water control zone in and near the area of the plume. The DNRC issued the BSS controlled ground water area order in June 1998. The city of Bozeman voluntarily proposed to line a portion of the irrigation ditch at the BSC.

In 1999, the city of Bozeman completed the expansion of the municipal water supply line along American Simmental Way. By the summer of 2000, all but one business had connected to the municipal water supply. The RI report was final in September 1999. Also in 1999, the city of Bozeman and American Stores (now known as Albertsons) reached a settlement in federal district court allocating their past, present, and anticipated future costs and activities at the BSS.

In 2000, the feasibility study work plan was finalized and the DEQ drafted the baseline risk assessment work plan (BRAWP). The DEQ amended the second order, which requires the city of Bozeman and American Stores to provide an alternate municipal water supply to all affected residents and businesses within the BSS, including the northern portion of the plume. The city of Bozeman and American Stores proposed to modify the long-term ground water monitoring plan.

In 2001, the DEQ issued the preliminary environmental requirements, criteria, or limitations (ERCLs) and continues to move forward with completion of the BRAWP and FS.

In 2005, the city of Bozeman and Albertsons jointly submitted a draft baseline risk assessment.

In 2006, the city of Bozeman submitted a draft feasibility study report.

Semiannual ground water monitoring is ongoing for select monitoring wells and domestic use wells.

Site Attributes

Site and Process Attributes	Bozeman Solvent Site
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PLP	√
Public Entity PLP	√
PLP with Resources	√
Bankruptcy Proceedings	
CALA Process	
Voluntary Cleanup	
Litigation	√
Project Officer Turnover	√
Active Local Citizens' Group	√
Active Local Government	√
TAG Grant	
Brownfields Money	
State Grant Money	
Orphan Share Funding	
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights[4]

Who Participated?

The Bozeman Solvent Site panel discussion had a diverse mix of stakeholders including:

* DEQ representatives (project manager, section supervisor, and division administrator)
* PLP representatives (city of Bozeman, Jewel/Albertsons)
* Environmental consultants (representing both the PLPs and the citizens' group)
* Citizens' group representative
* DNRC controlled ground water representative

Panel Perspectives

The DEQ noted a number of challenges in dealing with this site. Litigation between the city of Bozeman and Jewel Stores created delays. Turnover among consultants and multiple consultants involved with the site also created delays. State jurisdictional issues created problems early in the process when the site was transferred from the Water Quality Division to Superfund Section within the DEQ. Changes over time to the site have created challenges (i.e., growth and development). Local issues such as extending city water were problematic. The DEQ went beyond its statutorily required public involvement activities with this site by releasing a number of documents for public comment. The DEQ submitted a number of documents for the public to comment on. The DEQ noted that the public participation process takes additional time and effort.

Limited resources have been a big problem on the Bozeman Solvent Site. There have been five different project officers assigned to this site. There have been extended

[4] The panelist comments have been summarized and paraphrased. Any omission or inaccurate paraphrasing is the sole responsibility of the legislative staff person who put this report together.

periods of time where there were no project managers because of hiring freezes, funding issues, and reallocation of resources to higher priority sites or voluntary cleanup sites.

Private potentially liable persons (PLPs) and their environmental consultant noted frustration and disappointment with the lack of activity on the site since 1999. Specifically, delay by the DEQ in responding to PLP-submitted documents is a problem.[5] The private PLPs submitted a document to the DEQ in 1999, but it wasn't until 2004 that the DEQ responded. According to the private PLPs, this illustrates that it is important that there be adequate funding for a stable staff at the DEQ. Without adequate funding, the DEQ cannot function in the capacity in which it needs to respond in an appropriate and timely way. According to the private PLPs, communication is critical. There has to be an open flow of communication and there has to be a responsiveness on the part of all parties. The chronology of this site shows examples of both good communication and bad communication. Litigation was protracted between the city of Bozeman and the private PLP (Jewel/Albertsons), which created a number of issues. However, one of the benefits resulting from the litigation was a better understanding of the site (litigation concluded in 1999).[6]

The private PLPs noted that they provided money for DEQ oversight and that money has not been maximized.[7] The private PLPs did say that lately there has been positive progress on the site.

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[5] According to the DEQ, the referenced document was submitted by one of the PLP's consultants but was not required or requested by the DEQ and was therefore not a priority for the DEQ to review. According to the DEQ, the delay in reviewing this document did not interfere with or impede any actions needed to address immediate human health impacts.

[6] According to the DEQ, private litigation did not result in a better understanding of the site. The DEQ requires remedial investigations (site characterization) of CECRA sites, and therefore, according to the DEQ, investigations conducted for litigation purposes did not provide any information that the DEQ would not have required otherwise.

[7] According to the DEQ, the Department recovered its remedial action costs following expenditures as required by 75-10-722, MCA.

The city of Bozeman was also a PLP, which created some unique issues. The city's experience with the process was initially one of being overwhelmed by the DEQ requests for information, finding experts in a number of areas to make up for lack of expertise on staff, and not having any idea of the magnitude of the financial liability. Later, as the city's efforts, both voluntary and under order, were targeted to safeguard public health and minimize further damage to the natural resource, the city was given no obvious recognition from any quarter. The site remained a high-priority site (i.e. not rescored), the city sewer ratepayers were upset at the large increases on their bills, and the citizens' group expected more from the city.[8]

The city of Bozeman had "luxuries" that towns in Montana are not likely to have: a (small) technical staff (Engineering Office), a full-time staff attorney, and an enterprise fund with rate-setting ability. It is apparently the nature of the underlying Superfund legislation, but pretty quickly resources were being expended on two fronts: the problem and litigation. There was a lengthy period when "dueling experts" were preparing documents for submittal to DEQ, using everyone's valuable time and resources.

City observations regarding DEQ staff work on the Bozeman Solvent Site:

- ✓ DEQ was interested in making sure all activities would meet federal Superfund requirements.
- ✓ DEQ implied the inevitability of the site becoming a federal Superfund site.
- ✓ DEQ was somewhat willing to amend their orders in response to input.
- ✓ DEQ was not particularly helpful in explaining the process to the locals.
- ✓ DEQ did not seem to understand rules and regulations to which local governments are subject in their day-to-day operations.

[8] According to the DEQ, the city of Bozeman was not treated any differently than other PLPs at the Bozeman Solvent Site. According to the Department, the DEQ acknowledged voluntary and required actions conducted by both the city of Bozeman and Jewel at the Bozeman Solvent Site in the DEQ's fact sheets and public meetings.

- ✓ DEQ were "slaves" to public opinion, which seemed to slow down the decisionmaking process.

The city noted that as with the Rimini-Tenmile Site in Helena, not everyone affected was interested in "government solutions". At the Bozeman Solvent Site there were at least three owners who refused city water.

The citizens' group representatives also expressed frustration with the process. There was an acute frustration with the actions (or lack of action) on the part of the city of Bozeman. The Bozeman City Commission ignored impacted citizens. The citizens' group noted that the DEQ was extremely helpful. One of the citizens' group representatives noted that she has grandchildren that have Crohn's disease that in her opinion was most likely caused by contaminated water. She noted that health issues with these sites can be very serious.

The citizens' group representatives noted that environmental regulations are designed to protect people. In this case, the system has failed to provide a proper recourse for impacted citizens. According to the citizens' group, there was no proactive voluntary action on the responsible parties' part at the beginning of the process and that the PLPs dragged their feet at the beginning. In addition, according to the citizens' group, a lot of biased work plans were initially submitted by consultants. The citizens' group expressed overall frustration with dealing with recalcitrant responsible parties.

The DNRC representative on ground water control areas noted that it is important to have public meetings initially to educate the public about the site. The DEQ should be willing to petition for a controlled ground water area, if necessary.[9] Parties should carefully consider the conditions put on a controlled ground water area and how to enforce those conditions. Those conditions should be flexible. In Bozeman, the drilling community needed to be more involved in the controlled ground water process. The

[9] See the DEQ's extensive comments on the DEQ's role in controlled ground water area designations in Appendix E.

DNRC and the DEQ should provide expertise to impacted citizens in the controlled ground water area.

Burlington Northern Livingston Site

Site Quick Facts:	
Date Listed:	January 1, 1987
Date Delisted:	NA
Priority:	Maximum Priority Site
RI:	Yes (start date: 10/01/85; end date: 01/01/94)
FS1:	Yes (start date:12/26/91; end date: 01/30/98)
FS2:	Yes (start date:12/26/91; end date: 01/21/98)
ROD:	Yes (start date: 09/22/98; end date: 09/01)
# of Interim Cleanup Actions:	9
Number of Project Officers:	6

Site Description and History

The Burlington Northern Livingston Shop Complex (BN Livingston), an active railyard facility, is located in Park County, Montana. The majority of the site is within the boundaries of the city of Livingston. The facility is approximately 2 miles long and 0.5 miles wide and includes locomotive and rail car repair and maintenance shops. Except for the years 1986 and 1987, the industrial facility has operated since it was built in 1883. Washington Corporation purchased the complex from Burlington Northern (BN) in 1987 and has upgraded and improved operations for Livingston Rebuild Center (LRC) and Montana Rail Link (MRL). In 1994, Washington Corporation sold LRC to a private owner, and in 2000, LRC became Talgo-LRC, LLC.

Previous waste management activities and operating practices by facility operators contaminated soils and ground water. Primary contaminants are chlorinated solvents dissolved in ground water and diesel fuel dissolved in and floating on top of the aquifer. Chlorinated solvents were spilled and disposed of on the ground surface. Onsite wastewater treatment plant sludge, containing chlorinated solvents, was disposed of in unlined pits. Locomotive refueling and spills during refueling operations contributed to soil and ground water contamination. Leaks from underground storage tanks (USTs), piping, and leaking drain lines and manways also impacted the onsite soil and ground water. Cinders, sludges, and other solid wastes were disposed onsite in a cinder pile, which contains asbestos.

In 1985, DHES required BN to investigate the potential for diesel fuel leaking into soil and migrating to ground water. BN complied with the request by installing and sampling monitoring wells throughout the site. Diesel fuel was found in several monitoring wells, and volatile organic compounds (VOCs) were found in monitoring and municipal wells.

In 1987, BN contractors installed monitoring wells, piezometers, and hydrocarbon recovery trenches near potential contamination sources to monitor for contamination in ground water and recover fuel that was spilled during freight train refueling.

In 1988, DHES performed a CERCLA preliminary assessment (PA) to evaluate the nature of the contamination, potential pathways and receptors, and the facility's potential for inclusion on the National Priorities List (NPL). The PA indicated substantial diesel fuel and solvent contamination at the facility. Also in 1988, BN contractors performed a soil-gas survey at the facility to investigate source areas and attempt to correlate ground water contamination with soil-gas VOC concentrations.

DHES issued an administrative order in 1988 requiring BN to remove all USTs, the associated piping, and contaminated soils from the site. BN contractors shipped about 1,000 cubic yards of soil offsite for treatment.

Also in 1988, DHES sampled and detected small amounts of VOCs in two municipal wells. These wells were removed from service in 1988 to eliminate contamination in the city water supply. In 1990, BN helped the city of Livingston construct two new wells outside of the contaminated ground water plume. In 1992, BN helped the city extend a city water line along the northeast site boundary to connect city shops and homes to the city water supply.

EPA completed a CERCLA site investigation (SI) in 1989 to determine if the facility had the potential to be listed on the NPL. EPA completed a listing site investigation in 1990 to gather additional information and data for developing a hazardous ranking score (HRS) for the facility. In January 1994, EPA issued an HRS for the site. The BN Livingston Shop Complex facility has been proposed for the NPL.

In 1989, DHES began sampling indoor air at private residences within the ground water contamination plume to evaluate whether airborne contamination that could affect nearby populations was present.

In 1989, DHES and BN signed a consent decree to investigate the facility and agreed on the interim remedial measures work plan (IRMWP) to characterize contamination and to perform interim removal actions. Except where indicated below, BN's contractor conducted all activities with oversight from DHES. The following interim actions were conducted:

> In 1989 and 1990, BN contractors contained approximately 50,000 cubic yards of wastewater treatment plant sludge from four unlined pits. Offsite shipment of the sludge was completed in 1992.
>
> LRC and MRL replaced and sleeved leaking drain lines and manways in 1989.
>
> In 1990, BN removed about 60 cubic yards of petroleum-contaminated gravel from the Yellowstone River near BN's discharge pipe.
>
> In 1990, MRL installed a track pan system to collect oil and drippings from idling locomotives.

BN completed excavation and offsite shipment of approximately 12,000 cubic yards of sludge in 1993.

Between 1990 and 1993, BN contractors removed 2,700 gallons of diesel fuel from the aquifer while testing various diesel recovery technologies.

In 1991, LRC began the process of washing, sealing, and retrofitting the onsite grit chambers with smaller steel containers so that they might be used for something other than wastewater storage.

During 1992, BN contractors removed asbestos from the surface of the cinder pile.

Soil vapor extraction systems were installed in 1992, and as of 1997, they had removed approximately 3,200 pounds of solvents from the soil.

In addition to the actions performed under the IRMWP, other primary investigations and activities performed include: a private well survey (1992), a risk assessment (1993), basement gas monitoring (1991 to 1993), surficial soil sampling (1992), and monitoring well installations. BN contractors, under DHES oversight, performed all of these actions except for the risk assessment, which was done by DHES contractors.

DHES approved the final remedial investigation report in March 1994. DHES received the draft feasibility study (FS) report for primary hydrocarbons (diesel fuel) in March 1993, but additional treatability study work was necessary and the document was finalized in 1998. DHES received the final FS for soil and ground water in September 1998.

On September 22, 1998, the DEQ (formerly DHES) issued its proposed plan for public comment. After considering public comment on the proposed plan, the DEQ released the Record of Decision for the BN Livingston Shop Complex in September 2001. The selected final remedy includes cleanup or screening levels for all known contaminants at the facility, monitored natural attenuation of VOCs and dissolved petroleum in ground water, soil vapor extraction treatment of VOC- contaminated soils, and free product recovery. The remedy includes additional investigations, remediation alternatives analysis, and implementation of a DEQ-approved remedy for

contaminants posing unacceptable risks to human health, safety, and the environment that were not addressed during earlier investigations.

BNSF (formally BN) conducts semiannual ground water monitoring at the BN Livingston Shop Complex. The depth to water and to free product, if present, is measured. Ground water samples are analyzed for VOCs and petroleum compounds. Annual ground water monitoring reports are available at the information repositories.

As of September 2004, the DEQ has initiated negotiations to modify the consent decree to implement the Record of Decision.[10] To initiate negotiations, the DEQ issued a draft modified consent decree and a draft statement of work for the facility. The draft statement of work describes the work required to implement the Record of Decision. The August 9, 2005, spring statement of work identifies record of decision tasks that BNSF will complete under the existing partial consent decree. On April 17, 2006, the DEQ terminated negotiations for the remaining cleanup tasks. The DEQ will develop the remaining work plans and schedules, and BNSF will be given the opportunity to implement the work. If BNSF chooses not to implement the work, then the DEQ will complete the cleanup.

BNSF completed an interim action at the cinder pile in the railyard in May 2005. The 6.6-acre pile has been regraded and capped. Vegetation and drainage of the cinder pile will be monitored quarterly, and a fence is installed around the perimeter of the pile to prevent trespassers from damaging the cap. The first quarterly inspection indicates the cap integrity is satisfactory.

BNSF conducted indoor air monitoring in December 2005 and collected soil gas samples in April 2006 as part of an indoor air investigation of chlorinated solvents

[10] According to Kennedy/Jenks Consultants (KJC), on May 30, 2002, the DEQ issued the draft statement of work for the remedial design/remedial action, BNSF Livingston Shop Complex (draft SOW) to BNSF for comment. According to KJC, 7 days later, on June 2002, BNSF and the DEQ met to discuss the draft SOW and agreed in principle on modifications to address comments. No further input regarding the draft SOW was solicited from or provided by BNSF until September 2004 when DEQ issued a new draft SOW to BNSF. According to KJC, these facts are important in the timeline outlined in this report and some documentation of this delay is appropriate in this section.

potentially migrating from contaminated ground water. The sample results are currently under review by the DEQ. The results of the soil gas investigation will determine if further investigation or installation of home mitigation systems is warranted.

Quarterly[11] ground water monitoring is ongoing. Future ground water monitoring will be expanded as necessary to evaluate monitored natural attenuation and determine the extent of the plume boundary. Expanded ground water sampling is required to complete the investigation phase of the project. The goal is to obtain sufficient information about the aquifer characteristics to proceed with remediation.

The DEQ's CECRA program is the lead regulatory program for the facility and has ranked it a maximum priority.

Site Attributes

Site and Process Attributes	BN Livingston Site
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PLP	√
Public Entity PLP	
PLP with Resources	√
Bankruptcy Proceedings	
CALA Process	
Voluntary Cleanup	
Litigation	√
Project Officer Turnover	√
Active Local Citizens' Group	√

[11] According to KJC, ground water monitoring is semiannual.

Active Local Government	√
TAG Grant	√
Brownfields Money	
State Grant Money	
Orphan Share Money	
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights

Who Participated?

The BN Livingston Site panel discussion included the following stakeholders:

* DEQ representatives (project manager, section supervisor, and division administrator)
* PLP representatives (Burlington Northern and BN's environmental consultant)
* City of Livingston representative
* Citizens' group representative
* Former DEQ project manager

Panel Perspectives

The DEQ noted a number of successes and challenges in dealing with this site. The successes included removal of leaking underground fuel storage tanks, early replacement of public water supply wells before they were contaminated, and capping of the cinder pile. The challenges have included changes in risk assessment and cleanup technology over time, new information on additional risks associated with the site, third-party litigation, available resources, staff turnover, and maintaining an interested community. The DEQ has gone beyond minimum public participation requirements for this site, which takes substantial time and effort. The DEQ asserts that the PLP has not always incorporated the DEQ's comments within the work products.

There have been six different DEQ project managers assigned to this site.

The PLP's overall experience with the DEQ is that the DEQ takes its responsibilities very seriously and that the DEQ staff are very dedicated and work very hard at trying to get things done right. The reason that progress has been so slow on the site is regulatory in nature and not because of the PLP. Most observers would agree that the process has not moved forward at a reasonable pace at the BN Livingston site. The consent decree was signed in 1989 and the Record of Decision was not issued until 2001--12 years later. The Record of Decision defers many remedial actions and calls for a lot more study. It has taken 4 years to draft a statement of work. The statement of work dropped out of sight for 3 years because of staff turnover at the DEQ. Slow progress at the site has been a result of staff turnover or staffing limitations at the DEQ as well as the natural desire to find the answers to all of the questions before initiating cleanup. The DEQ is working at a level of detail that is more characteristic of an engineering consultant than a regulator.[12]

In doing site remediation and cleanup for over 25 years, the PLP's environmental consultants have never been involved in a cleanup site where everyone knew the answers to all of the questions before people got out there and implemented cleanup in the field. To do so would result in an endless data acquisition loop as each new set of data that is acquired begs additional unanswered questions. Perfection in site characterization is unobtainable.

According to the PLP, Superfund is designed to achieve tangible results in a timely manner. When an evolution occurs in technology and law over time, it causes the

[12] According to the DEQ, it is important to note that eight interim actions were completed between the time the consent decree was signed and the Record of Decision was issued. According to the DEQ, the interim actions addressed obvious sources of contamination at the site, which, according to the DEQ, reduced the risk posed by some of the sources but did not completely clean up the site. According to the DEQ, while there were other factors that also contributed to the regulatory process taking longer than typical, focusing resources on interim actions did delay completion of the PLP-generated remedial investigation, feasiblity studies, and subsequent DEQ decision documents. According to the DEQ, there is always a tradeoff in prioritizing interim actions over sitewide activities and those actions delay the overall cleanup. According to the DEQ, the Department does not have the resources to assign additional project officers to interim actions.

DEQ to reevaluate the site. This has led to backtracking on the Superfund process, even when it is not technically warranted.

Again, according to the PLP, the DEQ responsiveness to PLP documents is lacking. The DEQ sets a deadline for work plan submittals, and the PLP meets those deadlines and then those documents don't get reviewed by the DEQ in a timely manner.

The PLP noted that the citizens' group in Livingston has been a positive force in the process. The PLP also stated that the DEQ has a good track record with working with local communities and explaining the risks associated with the site.

The city of Livingston representative noted that the city depends on the DEQ a lot, that the city and DEQ have a great working relationship, and that the city really appreciates all the work that the DEQ has done over the years. It has been frustrating that the cleanup process has taken such a long time. There was little thought on the city's and other stakeholders' part about the impact that the site has on future community growth issues.

The citizens' group representative noted that an EPA technical assistance grant (TAG) created the citizens' group. It allowed the citizens' group to hire a consultant to interpret what is going on at the site and to translate complex information into a usable format for the average Livingston citizen.

The citizens' group encouraged interim actions to occur in order to get some on-the-ground cleanup work. Limitations in the DEQ's oversight capabilities (turnover) created delays and has resulted in an inconsistent process. Legal review, litigation, and negotiations have all contributed to delays in cleanup at this site. The DEQ is not the only party at fault regarding the delays. According to the citizens' group, the PLP has been recalcitrant in some cases throughout this process.

According to the citizens' group, the DEQ has been stellar at communicating with the citizens' group and local elected officials about the cleanup process. The DEQ had

gone above and beyond trying to make sure that the public is informed at every opportunity.

Livingston needs more money for these cleanup efforts. The citizens' group representative noted that a higher priority should be placed on remediation not only from an environmental standpoint, but also from an economic development standpoint.

The former DEQ project manager noted that continued investigation is necessary, but the DEQ has a lot of legal and political pressure that creates delays. There is also a bottleneck problem at the DEQ. One person has to review the work products before they go out. This has resulted in a huge workload for that person.

See Appendix D for recent communications between the Burlington Northern and the DEQ regarding site cleanup.

Brewery Flats Site in Lewistown

Site Quick Facts:	
Date Listed:	NA
Date Delisted:	NA
Priority:	NA
Brownfields:	Yes
VCRA:	Yes
Number of Project Officers:	1

Site Description and History

The Brewery Flats Lewistown Facility (Facility) is located along the west bank of Big Spring Creek, 1 mile south of Lewistown on Route 238. The Facility is a former Chicago, Milwaukee, St. Paul/Burlington Northern railroad switching yard and

roundhouse that ceased operations in 1987. The property was then purchased by George Berg and is currently managed by a Chapter 7 bankruptcy trustee on his behalf. Operations included the fueling and servicing of engines and general site maintenance resulting in soil contamination with petroleum hydrocarbons and some metals including arsenic and lead and ground water contamination with petroleum hydrocarbons and metals.

In 1986, the Department of Fish, Wildlife, and Parks (FWP) collected fish tissue samples along portions of Big Spring Creek and discovered elevated levels of polychlorinated biphenyls (PCBs) in the fish.

In 1994 and 1996, Braun Intertec Corporation (water supply pipeline contractor) detected traces of petroleum hydrocarbons and lead in four of the six test pits along the proposed waterline corridor. The test pits were sampled for petroleum hydrocarbons, polynuclear aromatic hydrocarbons (PAHs), PCBs, and lead.

In 1997, the Montana Bureau of Mines and Geology (MBMG) assisted FWP and Lewistown residents with the sampling for PCBs along Big Spring Creek. Four of the thirteen samples collected had elevated concentrations of PCBs.

In January 1998, the EPA and the DEQ assisted the Montana Power Company with the collection of 15 sediment samples from Big Spring Creek and adjacent to Brewery Flats. All 15 samples contained detectable levels of PCBs.

In March 1998, the DEQ collected another 11 sediment samples from Big Spring Creek and adjacent to Brewery Flats. Again, all samples contained detectable levels of PCBs.

In April 1998, the DEQ and MBMG collected three sediment samples from Big Spring Creek and adjacent to Brewery Flats. In addition several test pits were installed at Brewery Flats. The sediment samples had detectable levels of PCBs. However, none of the test pit samples contained PCBs.

In 1999, the EPA completed a site investigation (SI) in the vicinity of the roundhouse and a Brownfields assessment of the Brewery Flats Facility north of the roundhouse. Surface water, ground water, surface soils, subsurface soils, and a series of five sumps were investigated. Discrete phase diesel was found in the ground water while the surface soils were contaminated with lead. PCBs, pesticides, PAHs, and other metals were also detected at levels determined to be a potential threat to ground water.

In 1999, Conoco (PLP for the property directly south of Brewery Flats) detected petroleum hydrocarbons in soils during an investigation at an oxbow area on the southern portion of the Brewery Flats Facility.

In 2001, the city of Lewistown completed an investigation that included determining the extent of petroleum contamination in the soils and ground water in the discrete phase diesel area. In addition, the extent of contamination for the five sumps was determined to be contained within the sumps and didn't impact the surrounding soils or ground water.

In 2002, the city of Lewistown completed an investigation of the oxbow area that included additional surface water, ground water, sediment, and subsurface soil sampling. Iron was detected in the surface water samples at concentrations greater than the water quality standards.

In 2003, the DEQ conducted a targeted Brownfields assessment (TBA) for additional ground water sampling (filtered and unfiltered) for metals. The results determined that numerous wells had exceeded water quality standards for iron and manganese and one well near the discrete phase diesel area exceeded water quality standards for arsenic.

In 2003, the city of Lewistown conducted interim removal actions on the discrete phase diesel area and a portion of the surface soil lead contamination.

In 2004, the DEQ conducted another TBA to determine the bioavailability of the lead contamination in the surface soils.

In August 2005, the DEQ approved the city of Lewistown's voluntary cleanup plan (VCP). The VCP determined that additional removals were required in the discrete phase diesel area and surface soil lead contamination area. These removals were completed in January 2006. The VCP also determined that iron, manganese, and arsenic ground water contamination would require further investigation at a later date.

The city of Lewistown has received three resource development grants from the DNRC for site investigations, VCP development, and cleanup of the Facility. In addition to the DNRC grants, the DEQ also assisted with the cleanup with $151,000 of Brownfields funding. Confirmation of successful revegetation is the only VCP cleanup requirement left at the Facility.

The Brewery Flats Facility is listed on the Voluntary Cleanup and Redevelopment Act (VCRA) registry and its current status is "cleanup underway."

Site Attributes

Site and Process Attributes	Brewery Flats Site
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PLP	
Public Entity PLP	
PLP with Resources	
Bankruptcy Proceedings	√
CALA Process	
Voluntary Cleanup	√
Litigation	
Project Officer Turnover	
Active Local Citizens' Group	√
Active Local Government	√

TAG Grant	
Brownfields Money	√
State Grant Money	√
Orphan Share Money	
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights

Who Participated?

The Brewery Flats Site panel discussion included the following stakeholders:

* DEQ representatives (project manager, section supervisor, and division administrator)
* Environmental consultant for the city of Lewistown and citizens' group
* City of Lewistown representative
* Citizens' group representative

Panel Perspectives

The DEQ noted that community tenacity was instrumental in getting this site cleaned up. Communication and coordination was excellent between all parties. There were funding hurdles to deal with that created delays. Sometimes the city moved forward too quickly. The city also changed its vision for the property over time, which had an impact on the voluntary cleanup plan. Turnover has not been an issue. There has been only one DEQ project officer on this site during the voluntary cleanup process.

The environmental consultant for the city noted that funding issues were a big obstacle. Redundant information requirements can be also cause delays and additional expense. Hard copy comments on the voluntary cleanup plan are cumbersome and expensive. The DEQ should submit comments electronically.

The city of Lewistown representative noted that it is time to celebrate and showcase a property that was a liability but is now a tremendous community asset. Overall the city's experience has been positive. There has been a great partnership between state, federal, and private entities. The reclamation and development grants from the Legislature were critical to the success of this project. It is imperative to have a consultant with technical expertise to help a community out in these situations.

The citizens' group representative said that it was a long haul to go through the remediation process, which is not unexpected given the complexity of the process. The city of Lewistown really stepped forward on this and was very proactive. The voluntary cleanup program is a great policy to have in the state's arsenal.

Lockwood Site

Site Quick Facts:	
Date Listed for CECRA:	May 8, 1998
Date Listed for CERCLA:	December 1, 2000
Date Delisted:	NA
Priority:	Maximum Priority Site/NPL Site
RI:	Yes (start date: 05/02; end date: 06/03)
FS:	Yes (start date: 5/03; end date: 07/06/04)
ROD:	
# of Interim Cleanup Actions:	1
Number of Project Officers:	1(since this site became an NPL site)

Site Description and History

Site Name, Location, and Description

The Lockwood Solvent Ground water Plume Site (LSGPS) is a 580-acre site on the outskirts of Billings in Yellowstone County, Montana, that has been found to have chlorinated solvent contamination in soil and ground water. Current land use within the LSGPS is characterized as residential, commercial, and "light" industrial. Examples of commercial and light industrial businesses in the area include trucking, vehicle repair, truck tank manufacturing, chemical repackaging, machine shops, and auto salvage. At this time, the primary source of domestic use water in the LSGPS is from the Lockwood water and sewer district public water supply. However, some full-use domestic, other domestic (such as irrigation), commercial, and nondomestic use water is known to come from the shallow alluvial aquifer via several individual wells. Previous investigations by the DEQ, the EPA, and others indicate chlorinated solvents at the LSGPS have adversely affected ground water, surface water, soil, soil vapor, and indoor air. The primary contaminants of concern are the volatile organic compounds tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). On December 1, 2000, EPA placed the LSGPS on the National Priorities List. The DEQ was the technical lead for the project through the completion of the Record of Decision (ROD) and the EPA is the enforcement lead for the LSGPS. The Superfund trust fund has financed the activities at the site to date.

History of Site Activities

Beall Trailers of Montana, Inc. (Beall) manufactures and repairs tanker truck trailers, primarily to transport asphalt. From 1978 to 1990, trailers were cleaned with a solution of dissolved TCE and steam prior to maintenance and/or repair. The wastewater from the steam clean bay was discharged to a septic system and drain field.

Brenntag West, Inc. (Brenntag) (formerly HCI Dyce Chemical) is a chemical repackaging and distribution company. Under previous owners, the property was

developed and operations began in 1972. Historic releases of what are believed to be PCE and possibly TCE, as well as petroleum products and other organic compounds, characterize the Brenntag source area.

Enforcement Activities

On December 16, 1999, the EPA issued the first request for information letters to Beall and HCI Dyce Chemical pursuant to Section 104(e)(2) of CERCLA. The EPA then issued followup request for information letters to Beall and HCI Dyce Chemical on May 25, 2000. The information requests included questions regarding ownership history, locations of historical and current facilities, retention basins, chemical storage areas, all operations involving hazardous chemicals, waste generation and disposal practices, trade name and quantities of chemical products used, and all leaks, spills, or releases. On August 23, 2000, the EPA issued letters of general notice of potential Superfund liability to Beall and HCI Dyce Chemical. General notice letters notify the recipients of their potential liability under Section 107(a) of CERCLA. Liability includes responsibility for all costs incurred by the government in responding to any release or threatened release at the LSGPS as well as natural resource damages. Subsequent to the issuance of this ROD, the EPA will initiate negotiations for implementation of the selected remedy.

Investigation History

In October 1986, Lockwood water and sewer district personnel discovered the presence of benzene and chlorinated solvents in their water supply wells. That discovery led to the initiation of a number of investigations by the DEQ of underground storage tanks and a petroleum pipeline in the vicinity of the Lockwood water and sewer district property. In June 1998, the DEQ Site Response Section performed an integrated assessment of the LSGPS and provided bottled water to people with contaminated drinking water wells.

During the summer of 2000, the EPA's emergency removal program extended the public water supply line to the Lomond Lane area and 14 residences with

contaminated wells were connected by August 2000. The EPA also conducted indoor air sampling, provided mitigation for indoor air contamination, and continued ground water monitoring. The DEQ continued indoor air sampling on a quarterly basis through February 2002.

The DEQ began the remedial investigation in 2002. The remedial investigation included surface and subsurface soil sampling, monitoring well construction and ground water sampling, aquifer testing, surface water and sediment sampling, and indoor air sampling. Ground water sampling for protection of human health and contaminant characteristics continues today. The DEQ released the remedial investigation report in June 2003 and completed the feasibility study in July 2004. In October 2004, the EPA's Superfund technical support program evaluated the ground water and indoor air sampling results collected since the completion of the remedial investigation and feasibility study reports.

Community Participation

Beginning in June 1998, the DEQ asked residents to allow samples of water to be taken from private, residential, commercial, and industrial wells. On September 18, 1998, the DEQ issued a news release advising residents of Lomond Lane and Doon Avenue that their well water contained high levels of chlorinated solvents, including one solvent known to cause cancer and several probable human carcinogens, and advised the residents not to drink the water. The DEQ and the EPA held a public meeting on May 12, 1999, at the Lockwood School to report on recent investigations into ground water contamination. In December 1999, the EPA discussed its removal program activities at a public meeting in Lockwood.

DEQ personnel interviewed home and business owners in Lockwood from January 16 to 18, 2001, and then prepared a community involvement plan in October 2001. The community involvement plan identifies issues of concern to the local community regarding the LSGPS. Staff members from the Agency for Toxic Substances and Disease Registry (ATSDR) conducted interviews and an availability session in

Lockwood on January 18, 2001, to provide a foundation for a public health assessment and to guide ATSDR in planning their future activities at the LSGPS.

The DEQ held two public meetings announcing the release of the remedial investigation report in June 2003. The public meetings provided citizens a summary of the findings of the remedial investigation, the conclusions of the risk assessment, and an opportunity for their questions to be answered. The feasibility study was released in August 2004. Both documents can be found in the administrative record file and the information repository maintained at the MSU-Billings library. The DEQ mailed postcards to all interested parties announcing the availability of these two documents and provided newspaper ads in the Billings Gazette and Billings Outpost announcing the public meetings.

The DEQ and the EPA released the proposed plan for public comment on November 15, 2004. The DEQ and the EPA accepted written comments through January 14, 2005. The DEQ provided a direct mailing to interested parties that included either a copy of the proposed plan or a postcard announcing the public comment period and encouraging individuals to visit the administrative record for a copy of the proposed plan. The DEQ also provided a press release, newspaper ads, and television interviews. The DEQ and the EPA held a public meeting and hearing on December 2, 2004, at the Lockwood School. The DEQ presented the preferred alternative and moderated the public hearing during which the public verbally submitted comments, recorded by a court reporter, on the proposed plan. Approximately 20 people attended. All comments submitted to the DEQ before January 14, 2005, are addressed in the final ROD, Part 3, Responsiveness Summary.

Description of the Selected Remedy

The selected remedy is a comprehensive approach for the remediation of ground water and subsurface soil contaminated with chlorinated solvents. The two main source areas constituting principal threats are continuing sources of contamination to the sitewide ground water. Previous investigations by the DEQ, the EPA, and others identified two source areas with elevated concentrations of contaminants in soil and

associated ground water: the Beall and Brenntag properties. Focused remediation at the source areas will address the principal threat wastes posed by the site. Contaminated soils in these source areas will be treated to prevent further ground water contamination. Contaminated ground water will be contained to prevent further migration and treated to reduce contaminant concentrations. The following list summarizes the selected remedy components which are discussed in detail in the final ROD, Part 2, Section 9.

Major components:

Sitewide Elements
- Long-term ground water monitoring
- 5-year CERCLA reviews
- Institutional controls
  - Controlled ground water area
  - Deed notices/deed restrictions
  - Community awareness/education
- Risk mitigation measures
  - Continued potable well(s) ground water monitoring and mitigation measures
  - Indoor air monitoring and mitigation measures

Beall Source Area Ground water and Plume Leading Edge
- Treat with enhanced bioremediation

Beall Source Area Soil
- Treat vadose soil with soil vapor extraction

Brenntag Source Area Ground water
- Contain and treat with a permeable reactive barrier (or other treatment/containment barrier technology determined by the DEQ and the EPA during remedial design to be equally effective in achieving performance criteria as set forth in the final ROD)
- Treat with enhanced bioremediation

Brenntag Source Area Soil

Excavate accessible vadose zone soil and accessible fine-grain saturated zone soil and thermally treat onsite

Treat inaccessible vadose soil with soil vapor extraction

Treat inaccessible saturated zone soil with chemical oxidation

Sitewide Ground Water

Treat with enhanced bioremediation followed by monitored natural attenuation

Statutory Determinations

The selected remedy is protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

The selected remedy also satisfies the statutory preference for treatment as a principal element of the remedy (reduces the toxicity, mobility, or volume of hazardous substances as a principal element through treatment).

Because the selected remedy will result in hazardous substances, pollutants, or contaminants remaining onsite above levels that allow for unlimited use and unrestricted exposure, the DEQ and the EPA will conduct a statutory review within 5 years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

Site Attributes

Site and Process Attributes	**Lockwood Site**
State Superfund Site	
Federal Superfund Site	
Combination State/Federal Site	√
Private Entity PLP	√

Public Entity PLP	
PLP with Resources	√
Bankruptcy Proceedings	
Orphan Share	
Voluntary Cleanup	
Litigation	√
Project Officer Turnover	
Active Local Citizens' Group	√
Active Local Government	
TAG Grant	
Brownfields Money	
State Grant Money	
Orphan Share Money	
State EQPF Cost Recovery Money	√
Federal Money	√

Panel Discussion Highlights

Who Participated?

The Lockwood Site panel discussion included the following stakeholders:

* DEQ representatives (project manager, bureau chief, and division administrator)
* EPA representatives
* Environmental consultant for the one of the PLPs
* Lockwood water and sewer district representative
* Citizens' suit representative

Panel Perspectives

The DEQ noted that there has been great cooperation between EPA and the PLPs on this site. The initial response to this maximum priority site was very effective. The cleanup process has been very efficient. Turnover has not been an issue. There has been only one DEQ project officer on this site.

The EPA representatives noted that the DEQ had taken the technical lead on the site and has done an excellent job. The EPA representatives noted that they would follow up on allegations of illegal dumping of toxic chemicals.

The environmental consultant for one of the PLPs said that cooperation with the DEQ has been great. The PLPs, however, do have some frustrations. Costs associated with the remedial actions can be high and controlling costs can be an issue. PLPs would like to be more involved in the work plans. The PLPs would also like more time in terms of commenting on work plans. The PLPs have not been a part of the process in terms of why the information was being collected.

The attorney for the citizens' suit expressed frustration with the delays in the process. The system is not very agile. The attorney disagreed with the perspective that PLPs have been cooperative. According to the attorney, certain PLPs have been recalcitrant. The attorney alleged that a certain PLP falsified reports to the EPA and the DEQ regarding spills of chlorinated solvents. According to the attorney, litigation discovery documents show that there was deliberate dumping of barrels of toxic chemicals. The attorney noted that he conveyed this information to a governmental official. The attorney noted that it was the civil suit process that has exposed this problem.

The attorney noted that the relationship between private folks that are impacted and their attorneys with the EPA and the DEQ is important. The attorney said that it is important to preserve the rights of private individuals that are impacted. The savings clauses in federal CERCLA preserves private rights of action and prohibit PLPs from using the regulatory system to delay recourse by private individuals. The attorney noted that cleanup of the site as quickly and completely as possible is the best solution.

Delay, the attorney said, almost always benefits the polluter by stretching out the costs.

S&W Sawmill Site in Darby

Site Quick Facts:	
Date Listed:	August 14, 1989
Date Delisted:	NA
Priority:	High Priority Site
RI:	Yes (start date: 03/01/01; end date 09/01/04)
FS:	No
ROD:	No
# of Interim Cleanup Actions:	None (however, an action involving fencing was taken)
Number of Project Officers:	3

Site Description and History

S&W Sawmill is an inactive approximately 30-acre sawmill where wood treating occurred from approximately 1961 to the 1990s. It is located about 0.5 miles north of Darby. Facility operators used pentachlorophenol (PCP) mixed with diesel or a similar carrier as a wood preservative. This mixture has extensively contaminated soil and ground water at the site.

The site is in a mixed residential/industrial area on the north edge of the town of Darby. It is also about 0.25 miles west of the Bitterroot River. The nearest residence and domestic well are 500 feet away. Residents in the vicinity use ground water for drinking water supplies. The ground water plume (containing PCP, dioxins and furans, and petroleum) migrates north across Bunkhouse Road, and domestic wells are

monitored. No domestic wells currently exceed the federal drinking water standards. The site is comprised of parcels A, B, and D and the offsite ground water plume.

In 1984, Champion International sampled soil and ground water onsite and discovered soil contamination (PCP).

In 1987, DHES completed a CERCLA preliminary assessment (PA) of the site. The score suggested the site would rank too low to be listed on the NPL.

In 1988, Champion International performed a ground water survey in the area. Water supply wells in the area were sampled to determine if polynuclear aromatic hydrocarbons (PAHs) or PCP were present. No contamination was detected.

In 1989, Darby Lumber completed a real estate environmental assessment that identified areas of soil contaminated by PCP and petroleum hydrocarbons at the site.

In 1990, the DHES completed a CERCLA site investigation (SI) at the facility. PCP, PAH, and petroleum hydrocarbon contamination were found in onsite soils. No ground water contamination was detected.

In 1990, CECRA completed a CERCLA phase II SI. Onsite ground water contamination, including PCP and PAHs, was discovered.

In 1994, DHES-CECRA resampled two onsite production wells. PCP and PAHs were detected in one of the wells.

In 1997, the DEQ (formerly DHES) issued notice letters to liable persons. The noticed parties include Bitterroot Timber Industries, Champion International, and Darby Lumber Company.

In 1998 and 1999, Darby Lumber and Champion International (now International Paper) conducted phase I of the remedial investigation (RI) at the facility. Three offsite domestic wells were sampled and 12 monitoring wells were eventually installed.

Actually, 4 of the 12 monitoring wells had been installed in previous investigations onsite. The phase I RI report was submitted to the DEQ in 2000. The DEQ required phase II of the RI in 2001 and it was completed in 2002. The final RI report was completed and approved in November 2004.

Darby Lumber petitioned for allocation under CALA on November 13, 1998. In October 2000, the DEQ issued notice letters for the CALA process to six parties. A CALA stipulated agreement was signed by six of nine total parties in May 2001. International Paper was designated the lead entity for remediation of the facility. Darby Lumber subsequently filed for bankruptcy.

International Paper submitted a draft baseline risk assessment work plan in October 2002. The DEQ provided comments on the draft and International Paper submitted a revised work plan in June 2005.

The DEQ-CECRA program is the lead regulatory agency for the site and ranked it a high priority. The current priority scoring for the site is H30N.

Site Attributes

Site and Process Attributes	S&W Sawmill Site
State Superfund Site	√
Federal Superfund Site	
Combination State/Federal Site	
Private Entity PLP	√
Public Entity PLP	
PLP with Resources	√
Bankruptcy Proceedings	√
CALA Process	√
Voluntary Cleanup	
Litigation	

Project Officer Turnover	√
Active Local Citizens' Group	
Active Local Government	
TAG Grant	
Brownfields Money	
State Grant Money	
Orphan Share Money	√ (Claims pending)
State EQPF Cost Recovery Money	√
Federal Money	

Panel Discussion Highlights

Who Participated?

The S&W Sawmill Site panel discussion included the following stakeholders:

* DEQ representatives (CALA coordinator, section supervisor, and division administrator)
* PLP representatives (PLP and environmental consultant for PLP)
* Local government representative

Panel Perspectives

The DEQ noted that the positives regarding this site included good PLP cooperation, positive community involvement, and that the CALA process has worked like it is supposed to work. The negatives regarding the site are staff resources and turnover and land ownership issues that have interfered with the cleanup process. The project officer position for this site is currently vacant. It has been vacant since 2005. There have been three project officers assigned to this site since 1997.

The PLP emphasized that the studies have shown that the federal Superfund program results in 75% of the money being spent on transaction costs as opposed to on the ground cleanup. It is a noble goal to clean up sites and protect public health, but there

are lots of inefficiencies that create frustrations. At this site, technical issues have stalled the cleanup process. Lack of agency resources, turnover, and unrealistic project schedules have generated frustrations. Schedules are a two-way street. The DEQ is very aggressive in forcing the PLP to stick to schedules for producing documents, but then the DEQ is not timely in reviewing the documents that the PLP produces. When 30 pages of DEQ comments come back to the PLP with a tight timeline for response, this is counterproductive and inefficient.

Ownership issues are significant. There has been a bankruptcy and there are bankruptcy trustees. The CALA process got PLPs to the table and cut transaction costs, but there is uncertainty on whether orphan share money will be available.

Montana water quality standards for dioxin is much more strict than the federal safe drinking water standards. This creates issues not only for cleanup, but it also adversely impacts public perception.

The PLP asked how clean is clean? The PLP noted that these projects should not turn into endless science projects. There is a law of diminishing returns, i.e., the cost to clean up the last 5% or 1% of the contamination can be high. All of the issues cannot be overcome. It may not be possible to clean up the ground water below the S&W Sawmill Site. Sometimes good enough has to be good enough in this business. Agencies have to recognize that there is always a second chance to revisit the site.

According to the PLP, the DEQ is risk-averse. That is to say, the DEQ is slow to approve things, is overly careful, and proceeds as if there is only one bite at the apple. The DEQ has ultimate authority to reopen sites. At this stage of evolution of the remediation business, an awful lot is known about the remediation technologies that are out there and there are technologies that could be employed that would not cause undue risk. Risk aversity is not a function of the individuals at the DEQ, but of the system they work in. The DEQ staff is not encouraged to move the site forward, they are not encouraged to take risks, and therefore, there is no reason to take those kinds of risks. In the remediation business, risks are taken every day with capital and sometimes there is failure, but by and large, it works and a lot is learned.

The PLP noted that the DEQ's modeling approach has multiple conservative assumptions on top of conservative assumptions that are not consistent with other state and EPA measuring models and that are not supported by what is measured in the field. Soil standards are out of whack. The PLP has to arrive at a cleanup level in soil that ensures that water coming into contact with that soil doesn't exceed state water quality limits. The DEQ should consider actual measured values and risk approaches as opposed to modeling.

The local government representative said that contaminated water wells are a concern. Well drillers need to be in the loop. These folks need to be given notice so they don't drill wells. Contamination of shallow ground water is also a concern. The site has a severe economic impact on Darby and is an eyesore for the community.

Rimini-Tenmile Site

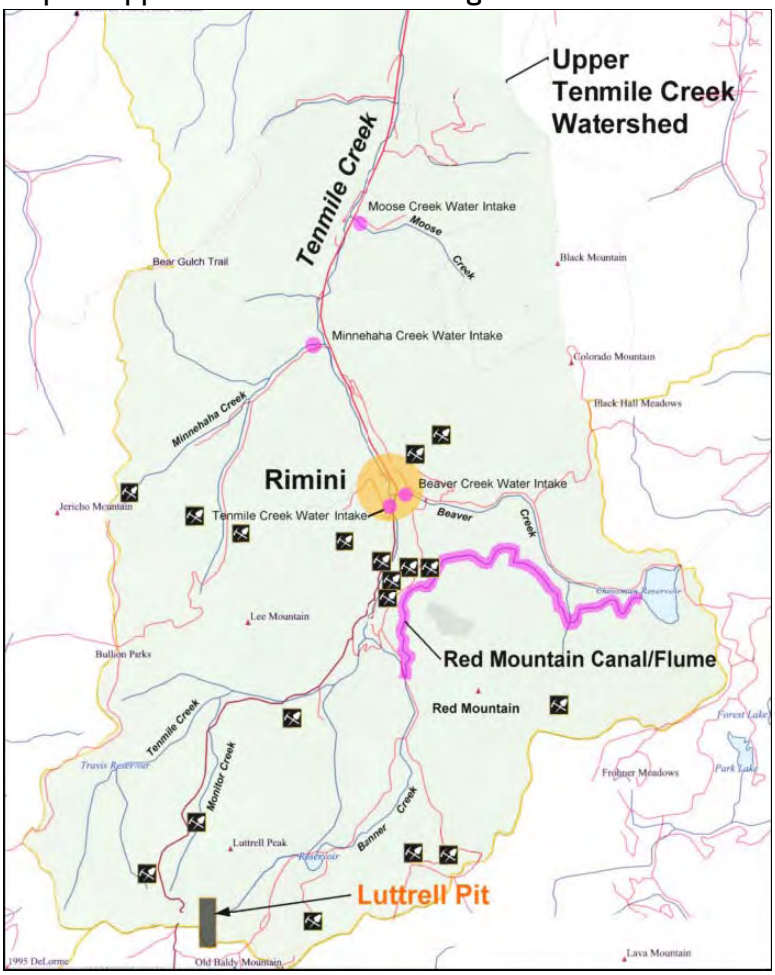
Site Quick Facts:	
Date Listed:	October 22, 1999
Date Delisted:	NA
Priority:	NPL Site
RI:	Yes (Start date: 2000)
FS:	Yes (Start date: 2000)
ROD:	Yes (Signed 2002)
# of Interim Cleanup Actions:	3
Number of Project Officers:	1

Site Description and History[13]

The EPA added the Upper Tenmile Creek Mining Area to the Superfund National Priorities List on October 22, 1999, due to mining waste problems in the 53 square mile watershed. The small historic mining community of Rimini is located within the Superfund site boundaries.

Contaminants of concern are heavy metals, primarily lead, copper and zinc, as well as arsenic. These contaminants pose potential risks to public health and the environment.

Map of Upper Tenmile Creek Mining Area



[13] The site Description and History of the Rimini-Tenmile Site was taken (changed with edits) with the permission of Helena EPA staff from the EPA website.

Background

The Upper Tenmile Creek Mining Area site is located in the Rimini mining district, southwest of Helena, Montana, and consists of numerous abandoned and inactive hard rock mine sites that produced gold, lead, zinc, and copper. Mining began in the Rimini mining district before 1870 and continued through the 1920s.

Little mining has been performed in the Rimini mining district since the early 1930s. The site boundary includes the drainage basin of Tenmile Creek upstream of the Helena water treatment plant and includes tributaries that supply water to the plant's five intake pipelines. The EPA identified 150 individual mine sites within the watershed boundary, of which 70 have been prioritized for cleanup. Many of these mine features are above the five city of Helena drinking water intakes which supply over 70% of the city's water.

Recent Highlights and Accomplishments

In 1999, residents and others met with the EPA to request cleanup of mining wastes. The EPA listed the site on the Superfund National Priorities List. Removal of waste began in high priority areas.

In 2000 and 2001, the EPA completed the cleanup in the high priority areas (Red Mountain, Bunker Hill, Susie, Peerless Jenny, Peerless King, and part of the Upper Valley Forge mine sites) . The EPA began a remedial investigation/feasibility study. Results showed that high levels of arsenic and/or lead pose a risk to human health in most residential yards in Rimini and several properties in the Landmark subdivision. Most well water in Rimini is contaminated. The EPA provided point-of-use water systems, evaluated alternatives for cleanup, and identified a preferred alternative.

In 2002, the EPA and the DEQ signed a Record of Decision (ROD) specifying that cleanup will include removal of the contaminated soils and mine waste and disposal in the Luttrell Repository. Cleanup will also include construction of new water and

wastewater systems for Rimini. The EPA and the Forest Service continued mine waste removals.

In 2003, the EPA began cleanup of residential yards in Landmark subdivision and water removal at the Lee Mountain mine site. Rimini water and sewer systems must be installed before residential yard cleanup begins. Wastes around home will be cleaned up before working on remote waste sites.

In 2004, the EPA completed cleanup of Landmark subdivision properties, began designing the water and wastewater system, and continued its search for a potable water supply for the community. Approximately 49,000 cubic yards of waste material were disposed of in the Luttrell Repository. Two of the cells of the repository are full and were closed in 2004.

In 2005, the EPA finalized designs and began construction of the wastewater treatment system and laid the sewer lines along the Rimini Road as part of road cleanup. The community received a technical assistance grant and hired a technical advisor.

As of March 2005, 348,000 cubic yards of waste from the Bunker Hill/Tenmile, Red Mountain, and Susie mines in the Tenmile watershed and the Buckeye/Enterprise, Bullion, and Crystal mines in the adjoining Basin Creek and Cataract watersheds have been safely stored in the Luttrell Repository.

The EPA has received funding for 2006 to complete residential yard contaminated soil removal and waste removal in Rimini Road, identify a potable water source, and finalize designs for the water system for the community of Rimini.

Cleanup Approach

The Upper Tenmile Site is being cleaned up using a collaborative, watershed approach. To date, the EPA has been unable to identify a PLP so the cleanup is being paid for with federal funds. Cooperating agencies have combined resources to

expedite a watershed cleanup. The U.S. Forest Service has taken the lead role in cleaning up wastes on its property within the Superfund site boundary (Beatrice, Justice, and Armstrong mines). Where individual mines involve both federal and private lands (Upper Valley Forge mine), cleanup expenses are shared by the EPA and the Forest Service. The EPA and the Forest Service also share construction and maintenance costs of a joint mine waste repository. Throughout the cleanup, the EPA continues to work closely with the Forest Service, state, and local community.

The EPA staff are coordinating with other state and federal agencies by addressing Clean Water Act problems related to mining wastes in the watershed that have been identified by the state. Tenmile Creek is a priority for the state's total maximum daily load (TMDL) allocation.

Site Attributes

Site and Process Attributes	**Rimini-Tenmile Site**
State Superfund Site	
Federal Superfund Site	√
Combination State/Federal Site	
Private Entity PLP	
Public Entity PLP	
PLP with Resources	
Bankruptcy Proceedings	
CALA Process	
Voluntary Cleanup	
Litigation	
Project Officer Turnover	
Active Local Citizens' Group	√
Active Local Government	√
TAG Grant	√
Brownfields Money	

State Grant Money	
Orphan Share Money	
State EQPF Cost Recovery Money	
Federal Money	√

Panel Discussion Highlights

Who Participated?

The Rimini-Tenmile Site panel discussion included the following stakeholders:

* EPA representatives (project manager and Montana office director)
* City of Helena representative
* Citizens' group representatives

Panel Perspectives

The EPA representatives provided an overview of the site history. The EPA representatives noted that under the federal Superfund laws, the EPA was not required to go through state permitting processes when cleaning up sites like Rimini-Tenmile.

The city of Helena representative noted that the city is willing partner in this cleanup process as long as Helena isn't required to subsidize the process. There are always bumps in the road, but from the city's perspective the cleanup process has gone well.

The citizens of Rimini have been split on the EPA's remediation process. Some citizens support the remediation process while others oppose it. It has been a very contentious issue. The citizens' group representatives that spoke before the Subcommittee represented both proponents and opponents to the remediation process.

Comparison of Site Processes and Attributes

Table 4-1.

Site and Process Attributes	Bozeman Solvent Site	BN Livingston Site	Brewery Flats Site	Lockwood Site	S&W Sawmill Site	Rimini-Tenmile Site
State Superfund Site	√	√	√		√	
Federal Superfund Site						√
Combination State/Federal Site				√		
Private Entity PLP	√	√		√	√	
Public Entity PLP	√					
PLP with Resources	√	√		√	√	
Bankruptcy Proceedings			√		√	
CALA Process					√	
Voluntary Cleanup			√			
Litigation	√	√		√		
Project Officer Turnover	√	√			√	
Active Local Citizens' Group	√	√	√	√		√

Active Local Government	√	√	√			√
TAG Grant		√				√
Brownfields Money			√			
State Grant Money			√			
Orphan Share Money					√	
State EQPF Cost Recovery Money	√	√	√	√	√	
Federal Money				√		√

5: Evaluation and Analysis

What Defines Success for the State Superfund Process?

There have been an number of studies that have analyzed the elements or indicators that define success for the federal Superfund program.[14] Success can be measured at a site level and at a programmatic level. Some commentators have noted that the elements of a successful Superfund site process at the most basic level include:

* Reducing risks at a site to an acceptable level.

* Removing or reducing contamination from land or water or other environmental media affected by contaminated sites and preventing future possible contamination or exposure.

* Achieving cleanup in a cost-effective manner.

* Meaningfully involving communities in the decisionmaking process.

* Implementing cleanup in an expeditious manner.

At a program level, indicators for success may include how resources are spent, how well the program communicates what is being accomplished, and how involved community representatives and responsible parties are in the cleanup and decisionmaking process.[15] Overall effectiveness and efficiency are the keys to a successful program.

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[14] Probst, Katherine, and Sherman, Diane, Success for Superfund: A New Approach for Keeping Score, Resources for the Future, (April 2004); NACEPT Superfund Committee Final Report (April 2004); Harris, Robert, and Wrenn, Grover, Making Superfund Work, Issues in Science and Technology, 1988; Environmental Law Institute, An Analysis of State Superfund Programs (Nov. 2002).

[15] Id.

Panel Suggestions for Improving the State Superfund Process

During the panel discussions, participants were asked to provide suggestions on how to improve the state Superfund process. Most of the suggestions were geared towards improving the timeliness and efficiency of the cleanup progress. Organizationally, suggestions have been put into the following categories:

*Benchmarks for Success
*Timeliness and Efficiency
*Communication
*Community Involvement
*Cost of Cleanup
*Enforcement and Remuneration

Benchmarks and Accountability for Success

1. There should be a periodic evaluation of all sites to determine whether anything is happening or not.

2. Reevaluate a site after a certain period of time. Maybe the Superfund site process is too cumbersome.

3. Independent audits on sites should be conducted by an independent party. The results of those audits and any corrective action should be reported to the DEQ and the Legislature.

4. There should be goals and objectives for the PLPs and goals and objectives for timely review of documents by the DEQ. Time requirements for review may be necessary. Provide some deference to the review requirements in the voluntary cleanup plan.

5. A system of metrics should be examined in order to track successes and progress at various sites. Is this process productive in terms of moving sites to the remediation and closure stage? Look at the Texas website as an example of measuring progress.

6. Accountability from all stakeholders is critical to successful site cleanup. Clear scope of what data is needed and a clear line on when that data is acquired to move to the

next step. Reanalyzing sites and data doesn't allow moving forward and getting these sites cleaned up.

7. Implement a website and implement a metric, i.e. for 1 to 100, as to where the process is on any given day.

Timeliness and Efficiency

1. There is an importance to having adequate funding for a stable staff at the DEQ. Without adequate funding, the DEQ cannot function in the capacity in which it needs to respond in an appropriate and timely way.

2. Other states streamline processes by delegating authority to make decisions to the project manager. Other states put compliance responsibility on the PLPs and consultants as opposed to providing detailed review on every aspect of Superfund site operations.

3. If there is turnover, maybe provide the DEQ with authority to use outside consultants to keep up with the work.

4. Industry would support funding seasoned people for expertise and more people at the DEQ. Industry has offered to fund a position to expedite the cleanup projects. Compare project workload with other states.

5. The DEQ should be able to edit documents electronically and send them electronically.

6. Permitting requirements can be waived under federal Superfund law. It would increase the efficiency of the process if permitting requirements could be waived for voluntary sites under the state Superfund process.

7. The DEQ needs to hire and retain good people and empower them to make decisions.

8. The DEQ needs to develop a process that relies more on contractors. The EPA does it. The PLPs do it. These are technical issues that can be delegated. It is a cost-effective way to manage a program.

9. Change the system so that the DEQ has a motivation to get sites resolved. Give the DEQ direction on risk evaluation and the ability to take chances and perhaps make mistakes.

10. Voluntary program sites can trump higher priority sites because of statutorily required timeframe. This delays action on higher priority sites.

Communication

1. The DEQ should sit down with stakeholders/PLPs in a facilitated setting to discuss what can make this process better. Not a finger-pointing session.

Community/Local Government Involvement

1. Provide an advocacy program within the DEQ for impacted citizens.

2. Implementation of significant, targeted out-reach to the affected unit of local government, specifically the governing body which is made up of lay people. Based on the state staff's broader experience, essentially coach the City Commission/Town Council up front:

* that similar sites have required money over a period of X years;
* that they will need specialized legal advice;
* that they will need specialized environmental expertise;
* about the advantages and disadvantages to voluntary actions;
* about what happens if they simply do not have the resources to respond to the orders;
* about what timeframes they can expect for DEQ responses.

3. No particular legislative relief to the normal rules and regulations under which local government operates is needed or advisable. However, financial assistance, perhaps modeled on the community development block grant and loan program, for an affected community would be helpful. Also, legislative immunity for local governments under certain circumstances would speed the process of identifying solutions for cleanup.

4. Develop partnerships and determine what the public benefits are for cleaning up the project. Economic development organizations in the community should get involved. Develop these properties. Set goals for cleanup.

5. Develop a process handout that explains how a community can go through the process.

6. A clear cleanup timeline would be helpful.

7. There are lots of technical terms to understand for citizens. Need to find a way to explain the process in an easy-to-understand manner.

8. Advise a community to organize itself to deal with site impacts.

9. Develop collaborative efforts at each site to involve all the stakeholders.

Cost of Cleanup

1. Oregon has garnered a reputation for effectively moving sites through its regulatory process to cleanup and closure. The Oregon law emphasizes risk based site closure and describes the cost/benefit basis for determination of the cost effectiveness of a remedy. A cost benefit assessment is implied in the cost-effective requirement for remedial actions under CECRA. It may be helpful to look to Oregon and Washington laws as examples to see if this is workable and if this type of amendment to Montana law and regulations is appropriate.

2. Institutional and engineering controls are very cost-effective.

Enforcement

1. Provide the DEQ with the muscle and horsepower to take an emergency action and enforcement.

2. Find a way to take care of impacted citizens. No remuneration for direct expenses.

3. It is important to preserve the rights of private individuals that are impacted. Savings clauses in federal CERCLA preserve the private rights of action for individuals. Prohibit PLPs from using the regulatory system to delay recourse by private individuals.

4. Put up property notices to inform the public about contamination issues. The state needs to figure out a mechanism to prevent the contamination plume from being pulled off the site. Deed restrictions should be a part of the permanent remedy.

5. Institutional controls are a necessary and important component of many of these cleanups, but not all. Alternate drinking water supplies, deed restrictions, prohibit future use, etc.

6. Current authority in the state Superfund law does not give the DEQ the authority to impose institutional controls, only approve them, and gives the DEQ as a part of the remedy the ability to institute institutional controls.

7. Enforcement of institutional controls --how to monitor institutional controls. There are no requirements in CECRA that require the state to go back and look at those institutional controls. This is an issue that the Subcommittee should look at. Deed restriction.

What Are the Notable Successes Relating to Superfund Site Cleanup?

Elements noted in the panel discussions that contributed to a successful site cleanup process included:

1. Lack of DEQ project manager turnover.
2. Active citizens' group and local government participation.
3. Cooperative PLPs.
4. Continuity among all stakeholders from start to finish.
5. Adequate funding and resources.
6. TAG grants for citizens' groups.
7. Clearly delineated scope of cleanup work.
8. Clear communication and cooperation among the DEQ and the stakeholders.
9. No litigation.
10. Voluntary action.
11. Prompt interim remedial actions.
12. Clear cleanup guidelines.

What Are the Notable Impediments to Success or Progress Relating to Site Cleanup?

The panel discussions revealed the following potential impediments to site cleanup success:

1. Lack of adequate resources at the DEQ.
2. High DEQ project manager turnover.
3. Micromanagement concerns with the DEQ staff and projects (insufficient decisionmaking authority to project managers).
4. Moving target syndrome (technology, standards and regulations are changing and the task is uncertain).
5. Paralysis by analysis.
6. Jungle of red tape -- is the DEQ too bound up in regulations and procedures that the DEQ cannot move forward?
7. Litigation.
8. Uncooperative PLPs.
9. Complex site contamination.
10. Multiple PLPs.
11. Lack of money.
12. Rapid change (i.e., development) at the site over time.
13. Inactive citizens.
14. Lack of clear cleanup standards.

6: Survey Results

The EQC Agency Oversight Subcommittee was approached by Professor Robin Saha of the University of Montana to conduct a detailed survey of stakeholders from each of the sites evaluated in Chapter 4. Set out below is a summary of the University of Montana's survey results in a memo submitted to the EQC by Professor Saha. Please note that in the public comments in Appendix E, the DEQ has made a number of comments regarding the University of Montana's survey results.

May 24, 2006

MEMORANDUM

To: Montana Environmental Quality Council (EQC) Agency Oversight Subcommittee

From: Dr. Robin Saha, Assistant Professor, University of Montana

Subject: H.J.R. 34 Study – Preliminary Report on Student Research

This memo notifies the EQC Agency Oversight Subcommittee that my graduate students have conducted the research requested to support your investigation regarding House Joint Resolution 34 on challenges that occur at Superfund sites under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the state Comprehensive Environmental Cleanup and Responsibility Act (CECRA), and the Voluntary Cleanup and Redevelopment Act (VCRA). Students have completed research for the six sites: Bozeman Solvent; Brewery Flats (Lewistown); Burlington Northern (Livingston); Lockwood Solvent; S&W Sawmill (Darby); and Upper Tenmile Creek (Rimini). I summarize below the work completed and provide an initial analysis, which can be expanded where our data allows.[16] Also included for your consideration are some possible approaches to improve the state Superfund process.

Objectives The students' efforts focused on four primary objectives: (1) to understand what is working well with the Superfund process; (2) to understand the reasons for slow progress at the sites; (3) to understand communication difficulties among the various parties; and (4) and to suggest possible solutions to the problems identified.

Methods and Analysis Students were divided into 1 or 2 person teams to conduct research on one or more of the sites. For each site, in-person or phone interviews were conducted with 6 to 10 stakeholders, which generally included agency staff (DEQ and/or EPA), local

[16] Steve Ackerlund, a technical consultant and one of the students in the class, *Community Responses to Toxic Contamination*, contributed to this summary. Some minor changes were made to this memo, which was originally submitted to the Agency Oversight Subcommittee on May 16, 2006.

officials, technical consultants, members of affected communities, and other knowledgeable persons (see attached interview protocol). Because of the limited number of students to conduct interviews, written surveys were distributed for the Burlington Northern – Livingston (BNLV) site. Interviews averaged between 1 and 1½ hours. Students took extensive notes or recorded interviews, which were subsequently analyzed to find areas of agreement as well as differences in perspectives among the stakeholders. Students also utilized the Subcommittee panel discussions, public records obtained from the DEQ, and other documents in conducting their analyses. Effort was made to identify stages of the process where stakeholders agreed the process worked well and not as well, and identify the contributing factors. The interviewees and the students also expressed ideas about how to reduce delays and communication difficulties.

Findings Each site is unique in terms of the nature of contamination, affected community, and parties involved. Thus, successes and challenges are somewhat unique to each site. Nevertheless, some factors and patterns that facilitate or impede progress at the sites were discernible. These are outlined below and summarized in the attached "Summary of Findings."

Contributors to project success included the following:

1. Interim measures, such as providing safe water supplies, were used at Bozeman Solvent (CECRA), Lockwood Solvent (CERLCA/CECRA), Brewery Flats (VCRA), and BNLV (CECRA) to quickly take care of immediate human and ecological threats once known. However, in Lockwood community members felt that these steps could have been taken sooner and serious health risks avoided if investigations had been conducted sooner.

2. Community involvement was successful at certain sites and stages of the process. Involvement of dedicated, charismatic leaders, local government, or community-based organizations, appears to have played a strong role in moving the process forward at Brewery Flats, Rimini, and BNLV. For Rimini and BNLV, EPA Technical Assistance Grants (TAG) grants facilitated community involvement and helped to counteract distrust of regulatory agencies. However, community involvement was not always sustained, and agencies too often believed it was effective when affected communities did not.

3. Consistent and competent project management was widely viewed as critical to success and regular progress at Lockwood Solvent and Brewery Flats (see contributors to delay below for sites with project management concerns).

4. Inter-party cooperation characterized by productive communication helped move the process forward at certain times (Bozeman Solvent, Rimini, and Brewery Flats). The challenge is to sustain and build on such efforts at these and other sites, many of which evidenced conflict among Potential Responsible Parties (PRPs), agencies, and community members.

The main factors found to contribute to delay or lack of progress at Superfund sites include:

1. Agency staffing in DEQ (turnover, open positions, and skill-levels) was consistently reported as a significant contributor to delay. This concern was overwhelmingly cited as a major problem for Bozeman Solvent, S&W Sawmill, and BNLV, and a minor problem for Rimini and Brewery Flats sites. "Slow document review" was identified as one manifestation, though other reasons were commonly noted for tardy document

turnaround (such as agency reluctance to exercise regulatory muscle and make decisions, and a generally over-cautious, over-detailed approach). Many interviewees attributed staff turnover and open positions to low salaries, and one implied a lack of qualified applicants. Although some felt that high workloads or bottlenecks at the sign-off level contributed to slow document review, we were not able to evaluate that assertion. Several consultants reported that DEQ project officers too often lacked technical expertise and experience needed to respond expediently. It was not possible, however, to systematically evaluate that claim either.

2. Limited funding available to DEQ to conduct on-site work was reported to impede progress, particularly if cooperation from PRPs is lacking (purported at BNLV and Lockwood), when multiple PRPs are litigating (Bozeman Solvent), or for a wide variety of situations where work on the site needs to be done but cannot due to lack of funding. This can limit regulatory options and impede agency responsiveness and timeliness in conducting work. For example, completion of a risk assessment (RA) reportedly stalled progress at Bozeman Solvent due to lack of funds. Stalled progress was also attributed to changes in federal funding commitments at the Upper Tenmile site (Rimini). Even the Brewery Flats site (managed under the VCRA program and widely viewed as a success story) experienced delay due to the annual cycle of Dept. of Natural Resources and Conservation (DNRC) Resource and Development Grants.

3. Debate over information needs and cleanup levels Debate over the type and amount of information needed to make decisions occurred frequently between DEQ and PRP consultants, and this constituted a major bottle neck in the process at Lockwood Solvent and BNLV. This difficulty is partially a function of the technical challenges of characterizing sites, determining a feasible approach to cleanup, and sometimes a desire by DEQ to have legally defensible data. Consultants tended to think data gathering should stop and work should begin when the source of contamination was known and tended to show concern for the cost of further studies. Less severe challenges of this type were noted for Bozeman Solvent, Brewery Flats, and Upper Tenmile. Debate between community members, on the one hand, and DEQ and RPRs on the other, regarding the appropriate cleanup level was a major source of frustration in Lockwood. It is common and understandable for citizens to want 100% cleanup and zero risk, which is rarely if ever technically or economically feasible. Changes in technical and environmental standards, and cleanup technologies, also reportedly contributed to the difficulty of efficiently working through complex information. These contributors to delay can be compounded significantly with staff turnover and agency funding (cash flow) problems.

4. Litigation was reported as a major and minor contributor to delay for the Bozeman Solvent and Lockwood Solvent sites, respectively. In Bozeman, which had multiple PRPs, some felt that litigation damaged trust, communication, and sharing of information, and led to the phenomenon of “dueling consultants.” Such contentiousness and duplication of effort inevitably leads to delay. Lockwood plaintiffs believed that litigation got the process moving by bringing attention to the site and providing residents with information, whereas RPs and some community members disagreed. They felt that it impeded the sharing of information and made agencies defensive.

5. Communication difficulties of a wide variety were noted, though only some seemed to contribute to delays, for example, a perception by community members of an ineffective working relationship between EPA and DEQ at Lockwood. Nevertheless, agency

communication with affected communities was a major challenge that contributed to community frustration (though DEQ earned high marks in working with communities overall). Technical consultants were not rated much better, unless they worked for the community as TAG recipients. Communication about health risks and environmental standards proved to be the most challenging at Lockwood, Bozeman, and Darby. Drinking water standards are not solely based on protection of human health, leaving agencies unable to say that water is truly safe to drink, even if it is legally acceptable! Thus, community members often expressed a desire for more understandable and useful information about (general and site-specific) health risks, technical, and regulatory matters.

Solutions For each site, interviewees and student researchers suggested a number of approaches for addressing common challenges at Superfund sites. I have also identified additional approaches for improving the Superfund process that also mostly stem from the above findings. These options vary in the degree to which they are practical and feasible, suitable for statutory change, appropriate to legislative oversight, and legally permissible currently. These are shown in the attached Summary Table and are outlined below.

1. *Establish presumptive remedies and use interim actions more often and where appropriate* (not just in instances of imminent human health or ecological risks). Learn from prior experiences at similar sites in Montana and elsewhere to identify and decide on appropriate remedies more quickly. Allow known problems to be addressed while additional investigations are ongoing.

2. *Adopt incentives for recruitment and retention of project officers*. Evaluate staffing needs at current or desired workloads at project officer and supervisory levels.

3. *Set and adhere to deadlines for agency document review.* Create mechanisms for making progress during project officer vacancies.

4. *Provide for more procedural flexibility within CECRA or encourage more effective use of alternatives to traditional processes,* such as under VCRA and the Controlled Allocation of Liability Act (CALA), and other collaborative processes such as multi-party negotiation and joint fact finding. Provide additional state funds to support such flexibility.

5. *Provide staff training or contract out services in risk communication, multi-stakeholder facilitation* when appropriate. Controversy appears to occur most frequently at sites that can affect personal property or health of community members. Anticipate rather than react to potential controversy using proactive risk communication and community involvement strategies.

6. *Develop a citizens' guide to CECRA and VCRA processes* and an electronic clearinghouse of current site information. Such actions will help citizens to more effectively engage in projects and obtain the information they desire.

7. *Initiate a TAG-like grant program* for community technical assistance and facilitation services to support outreach, communication, and enhanced community involvement.

8. *Set site-specific benchmarks* (performance measures), and evaluate or report progress toward them annually. This could overcome tunnel vision in project management, the natural tendency to lose site of the bigger picture when focused on the details.

9. *Set overall program milestones* (programmatic performance measures) for DEQ and require regular reporting that summarizes or evaluates progress toward them. If necessary provide adequate resources such that reporting requirements do not detract from project management tasks and supervision.

10. *Establish a more formal process for reclassifying sites* based on the effective use of interim measures so that sites can move out of the cumbersome CECRLA process, thereby allowing agency resources to be directed to the most important sites. Consider redefining “project complete” for sites with remedies that involve long-term treatment, maintenance or monitoring.

I look forward to the Subcommittee’s comments and questions about this preliminary report. If desired and the data permit, I can also provide more analysis or specific information tailored to any of the topics addressed above. Finally, on behalf of the students and myself, I want to express our gratitude for this learning opportunity and the chance to assist the Subcommittee with your study.

Attachments: Summary of Findings (Table); Interview Protocol; Summary Reports

Summary of UM Findings for EQC HJR 34 Study

	Description			Successes				Challenges							Solutions										
Site	Status	Responsible Parties	Affected Communities	Interim Actions	Community Involvement	Project Management	Inter-party Cooperation	Staff Turnover/Personnel	Lack of State Funding	Slow Document Review	Litigation	ROD Deviations	Ineffective Communication	Debate on RI Information	Increase Staff Funding	All Skills in "One Roof"/	Interagency and Public	Multi-stakeholder	Improved Decision-making	Deadlines for Document	State Fund for Cleanup	Formal Yearly Project	Presumptive Remedies	Project Reclassification[m]	Flexible TAG-like Program
Bozeman Solvent	Risk Assessment, Feasibility Study	✓	✓	✓	✓		✓[c]	●	●	●	●		○	○	✓	✓		✓	✓[g]	✓	✓	✓	✓	✓	
Lockwood Solvent	Remedial Design/Action	✓	✓	✓	✓[a]	✓					○		○	●				✓[b]			✓				✓
Upper Tenmile	Remedial Design/Action		✓		✓[j]		✓[d]	○	●[e]			○	●	○[h]	✓			✓	✓[f]						✓
Brewery Flats	Complete			✓[i]	✓	✓	✓	○		○				○				✓	✓	✓					✓
Burlington Northern	Remedial Design/Action	✓	✓	✓	✓[j]			●[k]						●	✓	✓		✓	✓			✓		✓[l]	✓
Darby	Baseline Risk Assessment	✓						●		●			●		✓		✓[n]			✓					

Notes:

● Major, ○ Minor

a During early years of the project leading up to the connection to the municipal water supply.

b Organized social infrastructure within the affected community specifically identified.

c Improved over time.

d Initially a community lead effort with invited, cooperative agency participation. Inter-party cooperation fluctuated over time, and is presently improving.

e Specifically, certainty in multi-year funding and transparency of funding decisions

f Improved multi-stakeholder involvement in decision-making and documentation of decision-making.

g Characterized as slow, DEQ hesitant to use authority.

h Specifically regarding issues of developing a water and sewer district: management development, operation and maintenance cost estimates and permitting needs.

i Conducted voluntary cleanups under the VRP prior to receiving approval from DEQ.

j Included the use of a Technical Assistance Grant (TAG) contractor.

k First six years had the same project manager, and the project progressed well.

l Specifically, the ability to obtain a technical impractability waiver for ground water cleanup as is allowed by EPA.

m Includes the idea of developing a new type of "project complete' that considers human health exposure eliminated, but long-term monitoring and other work may be ongoing.

n DEQ should be required to communicate health issues to the county, such as contaminated wells and possible other issues. An electronic "clearinghouse" was suggested. Posting signs to inform residents of hazards was also suggested.

o Needed a better approach for addressing community health concerns.

p Contamination discovered in 1986 and bottled water was provided, but connection to the public water system did not occur until 2000.

q Settlement achieved with most parties.

r Lack of funding prevented timely RI completion.

s In response to the finding of ineffectual communication and the desire to streamline PRP contention.

t Big Spring Creek watershed partnership.

u Public education on process and technical aspects of the project desired.

University of Montana Questions for
EQC Agency Oversight Subcommittee HJR 34 Study[17]
April 4, 2006

Interview Introduction: *Thank you for meeting with us today. My name is _____ and this is _____. We are graduate students at the University of Montana (Environmental Studies Program). We are assisting the Montana Environmental Quality Council's Agency Oversight Subcommittee in a study of what is working well and what can be improved with the (CECRA and CERCLA) Superfund process in Montana. The EQC is a part of the Montana Legislature. The EQC conducts studies such as this one, publishes reports on environmental policy topics, and proposes policy changes to the full Legislature.*

Our objective is to understand obstacles to successful cleanup of contaminated sites. We also seek to identify ways that the Superfund process can be improved, for example, how unreasonable delays in getting to and completing the cleanup phase can be prevented. Many of the questions we will be asking were provided by the EQC. We are interviewing approximately 10 persons who have been involved with the _____ site. We have already spoken with _____. The _____ site is one of six sites selected by the Subcommittee for study.

Your frank opinions and perceptions are highly valued in helping us understand what is working well and what can be improved with the Superfund process. Your responses will be available to the EQC unless you wish them to be treated confidentially, which means that unless we can remove information that could identify you as the source, your specific comments will not be shared beyond other students in the class and our professor (Robin Saha). If at any time during this interview you wish to make your answer to a particular question confidential, please let me know.

A final report summarizing our interviews for all six sites will be publicly available. Your participation is entirely voluntary and if there are questions you do not want to answer, just say so and we will move on. If you wish to stop the interview at any time, you may do so. Do you understand?

We would like to record your comments so that we can be sure that we accurately convey your views. Do we have your permission to do so [pause]? Thanks (or ok that is fine, we will just take notes). Do you have any questions for us at this point?

1. Please describe your involvement in the _____ ___project.
   When did you become involved and why?
   Please describe your involvement since that time.

[17] The prompts (secondary questions provided along with the interview numbered questions) were used at the judgment of the interviewer to encourage conversation. Questions were worded to minimize biasing of responses, perceptions, and judgments about factors contributing to or impeding the project's success. The following social science research guide was used: Gorden, Raymond L. 1998. *Basic Interviewing Skills, 2nd Ed.* Long Grove, IL: Waveland Press.

Please tell us a little more about your organization/group.

2. What parts of the project do you think have been successful and why?
   Please tell me more about what you mean by success.

3. What parts do you think were less successful or unsuccessful and why?
   Do you think there were any significant delays with the project? If so, please explain.
   There will be an opportunity later in the interview to discuss the reasons for slow progress, whether they were unavoidable, and steps that could be taken to speed up the process in the future.

4. Please describe your understanding of the role that communication has had in this project?
   [Communication = exchange of information between parties]
   How effective has communication been [choose a few as appropriate]:
   - between DEQ and EPA
   - between agencies and community
   - between agencies and PRPs
   - between PRP's and community
   - within the community
   - NOTE: consultants are covered in question 13

   Can you give me some examples?
   Was it always that way?
   When did communication become ineffective?
   When did communication begin to improve?
   Who communicated well and who didn't? Why?

7. Please describe how the public/community has participated in the Superfund process at _____ site.
   When and why did the community get involved/participate in the process?

8. How well has public participation worked?
   Please explain what has worked well or not worked well..
   Would you approach public participation differently in the future?
   If so, how?
   Why would you take this approach?

9. Please explain your understanding of the role of leadership in this project?
   Can you offer examples of effective leadership at the site?
   Prompt: Who have been effective leaders and why?
   Can you offer examples of ineffective leadership at the site?
   Prompt: Who have been ineffective leaders and why?

10. How important has funding been to this project?
    How has funding affected the project?
    How has funding helped or impeded cleanup progress?
    Please explain.

Can you talk a little more about …

11. What is your understanding of the role of DEQ/EPA personnel for this project/site?
    Has staff turnover affected the project and if so, how?

12. Were there any phases of the project that you think took too long to complete (for example, the remedial investigation, feasibility study/workplan, or actual construction/cleanup)? Please explain why you think so.
        Was there a need to answer every technical question with a great deal of certainty?
        Were these questions answered adequately?
        Did the technical studies hinder actual cleanup at the site?

13. Do you think that it is best to initiate certain cleanup actions (conduct interim remediation) at the site before the extent of contamination is fully known (before the remedial investigation process is complete)? Why or why not?

14. What do you think about the abilities of the lead agency staff's and consultants' overall ability [to oversee the project]?
    What about their project management skills - have they been adequate? Why or why not?
    What about their technical skills - have they been adequate? Why or why not?.
    What about their communication skills - have they been adequate? Please explain.
    Does the staff have adequate background (education and experience)? Why or why not?

15. **Question to Members of the Affected Community.** How have the agency and consultants of the PRPs communicated technical aspects of the project to [you/the community]?
    Please provide examples of effective or ineffective communication about technical matters, and comment on what worked well or didn't.
    How could such communication be improved?

16. What is your understanding of the cleanup standard, i.e., the level of cleanup, for this site?
    Were you satisfied with the cleanup standard? Why or why not?
    Were you satisfied with the process for determining the cleanup standard? Why or why not? [Keep in mind at the current point in the process, the cleanup standard may be proposed rather than final, or it may not even been proposed yet.]

17. If there has been litigation or administrative appeals relating to this site, how have they affected the process?

18. For this next question, please refer to specific stakeholders or stakeholder groups. If you were the chief advisor for the various stakeholders, what would you recommend they have done differently?

19. What about the current regulatory process (CERCLA/CECRA) do you think works well?
    What about the current regulatory process do you think doesn't work well?
    What regulatory changes would you suggest?
    What resources would be helpful for communities?

20. What other comments do you have that you think would be helpful for the EQC Agency Oversight Subcommittee?

21. Who else do you think is important for us to speak with to better understand this project? [Remind who you have already spoken with if necessary.]

Thank you for participating in our study. Would you like us to send you a final copy of our report to the EQC Agency Oversight Committee [add other comments as appropriate]?

Summary Reports of Student Research Reports for Montana Environmental Quality Council (EQC) House Joint Resolution (HJR) 34 Interim Study*

Respectfully submitted to:
EQC Agency Oversight Subcommittee
May 18, 2006

Prepared in conjunction with:
Community Responses to Toxic Contamination (EVST 594.03)
Instructor: Dr. Robin Saha
University of Montana

* An executive summary for Burlington Northern Livingston (BNLV) is not available at this time.

The Bozeman Solvent Site (BSS):
A consideration of the History, Successes, and Delays

By Jamie Silberberger and Molly McKinley

This study was carried out under the directive of House Joint Resolution 34 and in conjunction with an interim study of the Environmental Quality Council (EQC) Agency Oversight Subcommittee. We set out to determine the factors contributing to delay and success regarding implementation of the Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA) at the Bozeman Solvent Site (BSS).

In 1989, perchloroethene or "Perc" was discovered in drinking wells north of Main Street between 15th and 19th streets in Bozeman, Montana. In 1994 the site was listed under the Montana Superfund process (CECRA) and then designated a "maximum priority site." Seventeen years later cleanup has not been finalized. From our preliminary research, we developed a list of specific objectives to guide our research into factors that may have contributed to delays. These objectives include:

1) Determining if and how multiple Potentially Liable Parties (PLPs), the city of Bozeman and the Jewel Corporation/American Stores, and litigation may have stalled the process.
2) Determining whether having numerous consultants contributed to delay.
3) Determining if project manager turnover contributed to delay at the site.
4) Determining whether lack of funding prevented timely completion of work.
5) Determining whether the CECRA process inhibited timely cleanup.
6) Determining whether communication was effective among the various stakeholders, and whether ineffective communication contributed to delay.

We supplemented our preliminary research with 9 interviews with consultants, DEQ project managers, impacted residents, a former city official, the city attorney, and the BSS Citizens' Committee's technical advisor. We used interview questions provided by the EQC and ones we developed in accordance with our site specific objectives. The interviews were conducted in April 2006.

We found that though important steps were taken early on to protect human health, the site has been plagued by delays that have prevented timely remediation. Within the DEQ, there have been a number of factors that have stalled momentum at the site: staff turnover, lack of funding, and slow document review. Slow document review has emerged as a major issue. In some cases documents took up to six years to approve. This can be partially attributed to having five different project managers over 17 years. Each new project manager required time to get up to speed on the technicalities of the site and the CECRA process – their "learning curve." Lack of funding prevented the DEQ from completing the Risk Assessment (RA). For a time, the RA assessment was put off until the PLPs volunteered fund the completion of an RA.

Initially the two main PLPs had their own consultants working on the site. As a result, there was a great deal of duplication because each consultant submitted technical reports to the DEQ. The DEQ had to review each report before deciding which one to approve. What we refer to as "dueling consultants" used up valuable time and DEQ resources.

The identification of two main PLPs and the litigation that ensued did not help remediation efforts at the site. Early on in the process, litigation prevented cooperation among PLPs and led to communication breakdowns. As a result, communication between the PLPs' consultants was ineffective and the city of Bozeman was reticent to talk to community members about their concerns because they worried about liability issues.

Finally, the many different steps required under CECRA can at times bog down the process. Although many of these steps cannot be avoided, slow document review time can prevent the process from proceeding. Given that the threat to human health was averted early on, there is the question of whether or not BSS should continue under CECRA. Currently, a site is locked into the CECRA process until all steps have been completed.

We conclude that the project officer learning curve, litigation, multiple PLPs, dueling consultants, agency personnel turnover, funding, communication, and the CECRA process are all factors that contributed to delay. What follows is a list of our recommendations to improve the Montana Superfund process.

- Efforts should be taking by DEQ, PLPs, and community representatives to keep open and productive lines of communication. That can speed up the learning curve of new staff. Litigation inhibits communication between parties.
- Documents need to be reviewed in a timely manner. DEQ should set deadlines for itself for document review.
- Although having multiple PLPs is unavoidable at times, if sufficient funding were available, DEQ could complete work itself (through contractors) and recover costs later.
- More funding should be appropriated to the DEQ in order to increase project manager's salaries and retain quality personnel. Furthermore, the DEQ needs to have enough funding to complete the tasks required of them as a regulatory agency (for example, completing the risk assessment).
- CECRA sites should be evaluated on a periodic basis to determine whether or not they should remain in the program. If a site could be removed from the CECRA process once the human health risks have been eliminated, this would result in fewer hoops to jump through and could lead to more timely final cleanup actions.

We realize the issues involved in a Superfund cleanup are complex and multifaceted. Our findings and recommendations certainly are not the definitive answers to all of the problems associated with the Superfund process. Nevertheless, we hope to encourage discourse about ways the process can be improved.

Schedule and Communication Challenges at the Brewery Flats Lewistown Facility

By John Meyer

The purpose of this research is to inform the Montana State Legislature about the nature of certain schedule and communication problems at the Brewery Flats Lewistown Facility. Recommendations are provided regarding possible legislative changes that may circumvent future problems with the Voluntary Cleanup and Redevelopment Act (VCRA) program.

The Brewery Flats site is located within Fergus County just outside of Lewistown, Montana. The site is situated along the west bank of Big Spring Creek, one mile south of Lewistown on Route 238 and covers approximately 58 acres. Several residences are located to the west of the site. The Brewery Flats site is a former Milwaukee railroad switching yard and roundhouse. Operations included the fueling and servicing of engines and general site maintenance resulting in soil contamination with petroleum hydrocarbons, arsenic, and lead. The site has also been home to an oil refinery, coal mine, feed lot, a brewery, and functioned a dump for garbage, old appliances, vehicles, etc. A cleanup has been conducted under the VCRA program.

The cleanup received broad community and agency support throughout the duration of the project. While most everyone involved at the site widely perceives the final outcome to be a success, many noted what they believe were potentially avoidable delays along the way. In the most general sense, many of these delays can be attributed to problems with scheduling and communication. The perceived merits of these delays vary with stakeholder. Some community members expressed frustration with an apparent lack of a concrete schedule, while the DEQ was of the opinion that the schedule changed with changing local visions regarding future use of the site. There was general agreement that grant funding application schedules resulted in a vicious “hurry up and wait” cycle for the city of Lewiston.

Delays were also perceived to result from less than optimal conditions involving communication among the stakeholders. Document review was seen as posing certain communication challenges for the consultant, while some in the community did not feel that the consultant did a good job communicating technical information. Specific ideas generated from this research for improving the timeliness and communication of this project and possibly other similar projects are as follows:

1. Create and adhere to a scheduled timeline that is specific, achievable, and measurable.

2. Evaluate the ability of the DNRC Reclamation and Development grant program to support Voluntary Cleanup Plan (VCP) schedules, and if necessary devise means to expedite allocation of these grant monies. Identify or develop other funding mechanisms that better support timely clean ups.

3. Allow various stakeholders to electronically edit necessary documents via tools such as *Track Changes*.
4. Encourage or allow DEQ to determine on site-by-site basis any requirements or information under VCRA that may be superfluous and thus eliminated.

S&W Sawmill: DEQ's Orphan Project

By Daisy Patterson and Taira Flute

The S&W Sawmill site in Darby is unique in the lack of perceived risk and, perhaps consequently, the lack of controversy. S&W Sawmill's ability to remain contaminated with little outrage from the community has facilitated the Department of Environmental Quality's virtual abandonment of the project as evidenced by the longstanding lack of a project officer. Frustrations exist over communication between DEQ and the Ravalli County Health Department, and between DEQ and at least one property owner adjacent to the site. When comparing S&W Sawmill to other sites, it is ironic that the driving force behind progress in Darby is not the DEQ or a citizen group; it is the lead potentially liable party.

Research goals include an assessment of the community response to contamination and specific contributors to delay at S&W Sawmill. Research objectives are as follows: to determine why there appears to be a lack of a community response; to determine how much the community is aware of the contamination; and determine specific, procedural delays the DEQ has faced as they oversee the remediation efforts.

We found that the community does not appear to perceive a grave risk from the contamination at S&W Sawmill. There is a general lack of awareness of the site in Darby. Community members are not overly concerned with the contamination, yet they are unsure whether they should be concerned with well water contamination levels that are within the state drinking water standard for dioxin yet above the federal standard. Although there was general satisfaction with the CALA process, there was also general frustration about DEQ funding and the lack of project officer.

The following recommendations include policy and program suggestions to address frustration with the process, communication problems, and lack of community involvement:

1. Create an electronic clearinghouse to provide information to local agencies, PLP's, community members, and anyone wishing to get information on the status of Superfund sites in Montana.

2. Create a local Water Quality District similar to those in several Montana cities, which have provided leadership in water quality protection.

3. Post more informative signs at the site in more visible and trafficked locations.

4. Create a system to facilitate site progress during the absence of a project officer.

The PLP who is willing to complete work is unduly impeded by the lack of project officer to review documents. Whether or not funding is found to hire more DEQ staff, the current position apparently has funding and is not filled. PLP's need the assurance that procedures can be developed to trigger action on sites that have been inactive for a certain period of time.

Lockwood Solvent Groundwater Plume Site: Lessons Learned on Communication, Delay, and Social Impacts

By Michele Reinhart and Merianne Stansbury

The Lockwood Solvent Groundwater Plume Site (LSGPS) is a contiguous 580-acre federal Superfund Site just outside of Billings, Montana. Groundwater benzene contamination was discovered at the site in 1986 and the LSGPS was listed on the National Priorities List (NPL) on December 1, 2000. The primary contaminants of concern are volatile organic compounds (VOC), tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE or cis-1,2-DCE) and vinyl chloride (VC). The EPA identified two Potentially Responsible Parties (PRP's) in 2000: Beall Trailers, Inc. (Beall) and Brenntag West Inc. (Brenntag), formerly HCI Dyce Chemical, Inc.

Our primary objectives are to understand obstacles to successful cleanup of contaminated sites and to identify ways the Superfund process can be improved. Particular areas of concern are communication among involved parties and delays in the process. These broad objectives and areas of concern were developed from House Joint Resolution 34 and through coordination with the Environmental Quality Council (EQC) Agency Oversight Subcommittee.

Specific objectives regarding communication are: (1) to understand the effectiveness of communication at the Lockwood site; and (2) to understand what factors facilitated or impeded communication among the various stakeholders.

Specific objectives regarding delays are: (1) to understand why delay occurred in two stages of the process: (a) discovery of contamination and NPL listing, and (b) identification of contamination and implementation of the public water system; and (2) to understand stakeholder perceptions of the timeliness of cleanup.

Our research was conducted during March and April 2006. We employed several research methods to obtain information on the Lockwood site. We conducted preliminary document analysis and reviewed the Agency Oversight Subcommittee panel discussion. We also examined agency documents, including the Record of Decision (ROD), Proposed Plan, and the Remedial Investigation (RI) Executive Summary. We used interviews as our primary research method to supplement our analysis of documents relating to the Lockwood site. The EQC supplied the class with a set of interview questions, which we added to. Using the site contact list provided by the DEQ, we interviewed 8 people for this report.

The main conclusions and recommendations from our findings are:

1. FUNDING. Create State **Superfund** so DEQ can initiate cleanup actions before PLP's are identified. Just get the site clean. It took to long to identify and publicly name responsible parties – this was a problem with the law.

2. FLEXIBLE CECRA AND COLLABORATION. Create a more flexible CECRA process that allows for actual collaboration by encouraging stakeholders to come to the table together. Revise the law or administrative rules to allow and encourage negotiation on cleanup decisions that directly involves top decision makers. Collaboration with the various stakeholders and decision makers could lead to a more effective and efficient cleanup process. Joint fact finding on the scientific data also could be used to come to consensus on interpreting the data and help the agency more efficiently make cleanup decisions.

3. PUBLIC HEALTH COMMUNICATION. To better handle community health concerns, train agency personnel or contract out services in risk communication. Special expertise is required to contend effectively with extreme community reactions, such as strong emotions that are commonly and justifiably associated with actual or potential chemical exposures. Too often communities end up distrustful of government's technical and legal explanation of what is "safe." This has lasting communication implications. Thus, the DEQ needs someone who will be frank, honest, yet compassionate in helping the community address public health concerns.

4. EARLIER INVESTIGATION. In Lockwood, insufficient studies of the contamination failed to reveal the extent of the existing problem back when contamination was discovered in 1986 with the pipeline leak. The contamination of groundwater was found in Lockwood in 1991, but residential well contamination above standards was not discovered until 1998. Further investigation of the extent of the contamination could have been done starting in 1986, if there had been sufficient funding and agency will power to do so. Contamination may have been better contained and risks avoided..

5. SUCCESS. According to all parties interviewed, getting people hooked up to public water supply as quickly as possible was a success and helped reduce exposure. In such cases, the agency should act quickly as was done, once the threat was known, to remove the health risk.

6. PROJECT MANAGEMENT. Catherine LeCours has been an talented and effective project manager. She has done her best to keep the involved parties in the loop with open and regular communication. Her consistent assignment to the Lockwood Solvent Site since 1998 has helped keep the cleanup process moving. Increasing pay for DEQ project officers can help retain competent, experienced staff like Ms. LeCours.

Schedule and Communication Challenges at the Brewery Flats Lewistown Facility

By Steve Ackerlund and John Meyer

The purpose of this research is to inform the Montana State legislature about the nature of certain schedule and communication problems that have occurred at the Upper Tenmile Creek Superfund site. Recommendations are provided regarding possible legislative changes that may assist in circumventing future problems.

The community of Rimini is located within the Upper Tenmile Watershed and is approximately fifteen miles southwest of Helena, Montana. Once known as the Rimini Mining District, the area consists of about 150 abandoned and inactive hard rock mine sites that produced gold, lead, zinc, and copper. Consequently, investigations have identified wide-spread metals contamination in surface water, groundwater, sediment and residential soils. As a result of contamination, the area was placed on the Environmental Protection Agency's Superfund National Priority List in the fall of 1999.

The project received broad community and agency support up through the Record of Decision (ROD) in 2002. There continues to be little expressed concern about ongoing work to remediate historic mining impacts in areas of the watershed that are more distant from the community.

Controversy began when work was initiated in the Landmark subdivision and continues with the work being performed in Rimini. In the most general sense, the controversies seem related to deviations from plans prescribed by the ROD. The perceived merits of these deviations are dependent upon the unique perspectives of the different project stakeholders; the EPA and DEQ generally justify their deviations while many affected stakeholders question these justifications.

Specific ideas generated from our research for improving the timeliness of this project and possibly other Superfund projects are as follows:

- The agencies should be more tightly constrained to implementing the ROD. Deviations from prior plans or prior decisions increase the likelihood of confronting unforeseen technical or social issues that can cause delay and project cost increases.

- DEQ staff turnover on projects should be minimized to improve communication and coordination between DEQ and EPA, and within DEQ. Turnover may increase the chance of changing previously agreed to plans, such as the ROD.

- Uncertainty of annual appropriations and the lack of transparency concerning what influences the budget and the status of the present EPA Superfund budget has led to heightened concerns and the need to delay project elements into the next federal fiscal year.

Even with changes in these areas, however, it is unlikely that the schedule and cost of a project of the magnitude of the Upper Tenmile Watershed could be radically transformed through the near-term efforts of the Montana legislature. It is in fact, a costly multi-year effort. The protracted nature of the project has led to social strains that typify many communities that become involved in a Superfund cleanup. These strains result from project-related inconveniences and nuisances, potential impacts to personal property values, real or perceived impacts to private property rights, reduced trust in government, and overall frustration, concern and anxiety of a prolonged nature.

The needs commonly expressed by both community members and agency personnel as under recognized and undervalued at the outset of the project include:

- Strong community leadership that can organize the community, make hard decisions, and that can effectively advocate the community's position within the community and within the larger political systems that support the project.

- Improved public participation that helps community residents resolve differences, encourages active participation, and that can meaningfully influence the project.

- Improved communication between the various stakeholders.

- A public relations program that serves to educate a broader public about the nature of the environmental problems and the benefits of the work performed.

A comprehensive facilitation program, such as Joint Fact Finding, is suggested as an alternative to the TAG program and to the ongoing types of community involvement presently being used to support the project. Facilitation approaches such as Joint Fact Finding go beyond meeting management to establish public participation and policy dialog processes that are informed, inclusive and deliberative. By adopting a comprehensive facilitation program, the Montana legislature would actively recognize Superfund projects as being socially as well as technically complex, and would be applying the state-of-the-art processes for responding to the social challenges.

7: Findings and Recommendations

The EQC makes the following recommendations:

1. Benchmarks

a. That the DEQ generate and submit a "Four-Year Plan of Action" report to the EQC and Legislature. This report would contain goals and schedules for progressing active remediation projects.

b. That the DEQ generate and submit a biennual "CECRA Cleanup Progress Report" to the EQC and the Legislature using a format provided by the EQC.

c. That the DEQ place every site (in which information is available and a remedial investigation has been conducted) on a timetable with specific milestones.

2. Program Resources

a. That the DEQ hire qualified outside consultants to perform routine CECRA oversight functions.

b. That the Legislature/DEQ authorize PLPs to fund project officer positions. Project officers hired by the DEQ and funded by a PLP would be dedicated to addressing the PLP's site.

c. That the Legislature statutorily address the compensation of project officers, including contractors, with the goal of keeping project officers on the job through the project's completion.

3. Communications

a. That the DEQ convene "action checklist" meetings with the PLPs, and those meetings should have a set agenda with specific outcomes and that the meetings include all decisionmakers attending that can commit on behalf of their principals to resolve all pending issues.

b. That the DEQ improve channels of communication with the PLPs and the public and take steps to avoid systemic problems such as "paralysis by analysis".

c. That the DEQ or EQC develop a citizen's guide to CECRA to assist citizens and communities in understanding the CECRA process.

4. Enforcement

a. Either through statute or administrative rules, the Legislature or the DEQ should allow greater flexibility and enforcement of institutional controls.

5. Site Cleanup Process

a. That the DEQ amend or adopt administrative rules to ensure that a site listed as a priority receives priority treatment and attention throughout the cleanup process.

b. That, either through statute or administrative rules, the Legislature and the DEQ consistently promote and emphasize the use of interim remedial actions to effectuate reduction of risk on CECRA sites.

c. Require the DEQ to adhere to all document review deadlines throughout a site's cleanup process.

d. Resolve moving target cleanup standards by statutorily directing and authorizing the DEQ to establish appropriate cleanup standards that will not change following the selection of a remedy.

6. Ongoing Program Review and Evaluation

a. That the EQC request the Legislative Audit Committee to direct the Legislative Audit Division to conduct or have conducted a legislative performance audit of the DEQ CECRA program. The performance audit should focus on:

(i) identifying and removing bottlenecks within the DEQ that are adding years and exhausting funding resources provided for the cleanup process;

(ii) assessing and updating the CECRA computer database to expedite all aspects of the cleanup process;

(iii) evaluating the procurement process of contracted consulting services; and

(iv) evaluating the procurement process for the use of technical consultants to perform standard technical support functions on CECRA sites.

b. That the EQC or the DEQ establish an environmental cleanup work group to re-examine program effectiveness, activities, and priorities. The EQC should work with the DEQ to establish priorities and goals for this work group. The work group should be comprised of members representing a cross-section of stakeholders.

c. That the EQC continue to work with the DEQ to develop specific legislative changes in addition to any legislative changes envisioned in these recommendations.

Appendix A: Priority Ranking Sheet

May 10, 1999 - Final

PRIORITY RANKING SHEET

Facility: _____ Facility ID No: _____
Address: _____ Leak No: _____
Legal Location: _____ Ranked by: _____
Date: _____

Facility Rank and Score: _____

Instructions: DEQ ranks all CECRA, groundwater, and LUST facilities with this form. Start with the maximum priority category and check **all** criteria in **every** category that apply. Then add the scores for **all** the criteria that apply. The facility is ranked by the highest category that has criteria checked followed by its total score which ranks the facility within the category. For example, a medium priority site with a higher score is a higher priority than one with a lower score.

Finally, answer the question at the bottom of the ranking form regarding the potential for interim actions; add the response (Yes or No) to the facility ranking designation (i.e., •High, 45, Y• or •Medium, 30, N•). This designation flags facilities at which a simple interim action, like fencing or drum removal, could reduce facility hazards and possibly move the facility into a lower priority designation.

MAXIMUM PRIORITY: Immediate threat requiring immediate action

____ 20 **Public drinking water supply impact: documented** release to ____(a) a surface water intake, ____(b) a groundwater well, or ____(c) a drinking water line with documented or probable exceedance of Montana water quality human health standards (WQB-7) or the federal maximum contaminant levels (MCLs) in a public drinking water supply or contaminant levels that render the drinking water supply harmful, detrimental, or injurious to a beneficial use

____ 18 **Domestic/commercial drinking water supply impact:** documented release to ____(a) a surface water intake, ____(b) a groundwater well, or ____(c) a drinking water line with documented or probable exceedance of WQB-7 or the MCLs in a domestic or commercial drinking water supply or contaminant levels that render the drinking water supply harmful, detrimental, or injurious to a beneficial use

____ 20 **Vapor accumulation in structures or utility corridor:** explosive vapor levels, or concentrations of vapors that could cause acute health effects, are present in a structure or utility corridor

____ 20 **Imminent danger of fire or explosion or dangerous outdoor vapor levels:** indications of an imminent danger of fire or explosion or a release of dangerous levels of vapors in ambient air

____ 18 **Free product release:** free product is present in significant quantities in the groundwater, in or on surface water bodies, in utilities other than water supply lines, or in surface water runoff

HIGH PRIORITY CATEGORY: Significant near-term threats requiring prompt action

____ 15 **Drinking water source impact:** documented release to groundwater or surface water that is a drinking water source with no documented or probable exceedance of WQB-7 or the MCLs or contaminant levels that render the drinking water supply harmful, detrimental, or injurious to a beneficial use in a ____(a) surface water intake or ____(b) groundwater well that is a drinking water supply

____ 15 **Ambient air impact:** documented release to ambient air or friable asbestos-containing materials on the ground surface that pose a threat to public health

____ 15 **Utility corridor impact:** contamination has migrated to a utility corridor that is currently in use

____ 15 **Threat of vapor accumulation in a structure or utility corridor:** threat of explosive vapor levels or concentrations of vapors that could cause health effects by accumulating in a structure or utility corridor

____ 15 **Contaminated soil in proximity of receptors:** documented and extensive contamination of exposed shallow soil or exposed sediment with uncontrolled facility access

____ 15 **Container etc. that is or may leak in proximity of receptors:** documented existence of an uncontrolled hazardous or deleterious substance, in a container or impoundment that is leaking or that presents an imminent threat of leakage in an area with uncontrolled facility access

____ 15 **Sensitive environments impact:** documented impact to a sensitive environment such as a terrestrial or aquatic resource, including wetlands, or area with unique or highly valued environmental or cultural features, or a fragile natural setting

MEDIUM PRIORITY: Potential long-term threat requiring action

____ 10 **Documented or probable water impact: documented** or probable release to ____(a) surface water, ____(b) groundwater, or ____(c) a water line that is not a drinking water source but is used for another beneficial use (i.e., agricultural, industrial, etc. or primary contact activities like swimming or fishing, etc.)

____ 10 **Imminent threat to drinking water source:** imminent threat to a drinking water source from migration of contamination from soil to surface water, groundwater, or a water line that is a drinking water source

____ 10 **Potential ambient air impact: potential** release to air that may pose a threat to public health

____ 10 **Potential utility corridor impact:** potential for migration of contamination to a utility corridor that is currently in use or documented contamination to a utility corridor that is not in use

____ 10 **Contaminated soil or container that is or may leak:** documented or probable localized contamination of soil or presence of a container or impoundment that is leaking or that presents an imminent threat of leakage, or documented or probable extensive contamination of soil with controlled facility access

____ 10 **Potential sensitive environment impact:** potential impact to sensitive environments such as a terrestrial or aquatic resource, including wetlands, or area with unique or highly valued environmental or cultural features, or a fragile natural setting

LOW PRIORITY: Minimal potential for long-term threat

____ 5 **Minimal potential water impact: minimal** potential for release to ____(a) surface water, ____(b) groundwater, or ____(c) a water line that is not used for any purpose other than primary contact activities (i.e., swimming, wading, etc.)

____ 5 **Minimal air impact: minimal** potential for release to air that may pose a threat to public health

____ 5 **Minimal utility corridor impact:** minimal potential for release to a utility corridor

____ 5 **Minimal soil impact: minimal** documented release or potential for release to soil with minimal potential for direct contact hazard

____ 5 **Other:** (briefly describe)

OPERATION AND MAINTENANCE

____ 1 **Operation and maintenance:** Remedial action are complete but the facility is undergoing operation and maintenance, such as revegetation monitoring, surface water monitoring, groundwater monitoring, waste repository maintenance, or maintenance of other features (i.e., fences, etc.)

____ (Y/N) Could a relatively quick, simple interim action (i.e., fencing facility, removing drums, etc.) significantly reduce facility hazards? If yes, briefly describe action:

Appendix B: State Superfund List

MONTANA
CECRA PRIORITY SITES

Friday, May 05, 2006

Site	City	County	Ranking
A & S Industries †	Poplar	Roosevelt	H
A Js Laundry and Linen	Missoula	Missoula	N
Abandoned Railroad Embankment West Great Falls	Great Falls	Cascade	L
Agency Dump †	Agency	Sanders	M
Alberton Roundhouse	Alberton	Mineral	L
Alice Creek Post and Pole	Lincoln	Lewis And Clark	M
All American Bumper & Plating	Missoula	Missoula	L
Anaconda Aluminum Co Columbia Falls	Columbia Falls	Flathead	R
Anaconda Minerals Company Great Falls	Black Eagle	Cascade	H
Arro Oil Refinery	Lewistown	Fergus	M
Basin Mining Site **	Basin	Jefferson	H
Bass Creek Post and Pole	Stevensville	Ravalli	L
Beaver Wood Products Inc	Columbia Falls	Flathead	H
Beaverhead National Forest Elkhorn Mine & Mill ‡	Wise River	Beaverhead	R
Belle Creek Barrel Site	Belle Creek	Powder River	L
Berg Post And Pole	Lewistown	Fergus	H
Big Hole Post Plant	Argenta	Beaverhead	M
Big Horn Oil & Refining Co	Billings	Yellowstone	L
Big West Oil Refinery	Kevin	Toole	H
Billings PCE Groundwater	Billings	Yellowstone	H
Bitterroot Valley Sanitary Landfill	Victor	Ravalli	X
Blackfeet Pencil Factory †	Browning	Glacier	L
Blackfeet Post and Pole †	Browning	Glacier	L
Bohrmans Exxon	Ennis	Madison	M
Bonneville Power Administration Hot Springs † ‡	Hot Springs	Sanders	L
Bootlegger Trail Site	Black Eagle	Cascade	N
Boulder River Railroad	Boulder	Jefferson	L
Bozeman Old City Landfill	Bozeman	Gallatin	L
Bozeman Solvent Site	Bozeman	Gallatin	X
Bureau Land Management Steamboat Point ‡	Loma	Chouteau	L
Burlington Northern	Havre	Hill	X
Burlington Northern Derailment Site Bainville	Bainville	Roosevelt	L
Burlington Northern Derailment Site Bridger	Bridger	Carbon	M
Burlington Northern Derailment Site Whitefish	Whitefish	Flathead	R
Burlington Northern Fueling Facility Billings	Billings	Yellowstone	M
Burlington Northern Fueling Facility Butte	Butte	Silver Bow	M
Burlington Northern Fueling Facility Essex	Essex	Flathead	M
Burlington Northern Fueling Facility Glendive	Glendive	Dawson	H
Burlington Northern Fueling Facility Great Falls	Great Falls	Cascade	H

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MONTANA
CECRA PRIORITY SITES

Friday, May 05, 2006

Site	City	County	Ranking
Burlington Northern Fueling Facility Helena	Helena	Lewis And Clark	H
Burlington Northern Fueling Facility Laurel	Laurel	Yellowstone	H
Burlington Northern Fueling Facility Missoula	Missoula	Missoula	H
Burlington Northern Fueling Facility Shelby	Shelby	Toole	L
Burlington Northern Fueling Facility Whitefish	Whitefish	Flathead	H
Burlington Northern Krezelak Pond	Havre	Hill	M
Burlington Northern Livingston Shop Complex	Livingston	Park	X
Burlington Northern Racetrack Pond	Havre	Hill	M
Burlington Northern Somers Plant	Somers	Flathead	L
Busby CCC Camp †	Busby	Big Horn	L
Butana Speedway	Butte	Silver Bow	M
Butte Manufactured Gas Plant	Butte	Silver Bow	H
Carpenter & Snow Creek Mining Complex **	Neihart	Cascade	H
Carter Oil Refinery Exxon †	Cut Bank	Glacier	H
Central Post and Treating Co	Lewistown	Fergus	L
Chandelle Lane Barrel Site	Black Eagle	Cascade	H
Charles M Russell Refuge ‡	Turkey Joe Landing	Fergus	L
Chevron USA Inc Browning Bulk Hoyt Dist †	Browning	Glacier	L
CMC Asbestos Bozeman	Bozeman	Gallatin	M
Coffman Lumber & Treatment Co	Billings	Yellowstone	M
Comet Oil Co	Billings	Yellowstone	H
Conrad Refining Co	Conrad	Pondera	M
Continental Oil Refinery Lewistown	Lewistown	Fergus	M
Corbin Flats	Jefferson City	Jefferson	O
Creston Post and Pole Yard	Creston	Flathead	H
Davis Post Yard	Willow Creek	Gallatin	M
Department of Army AMSA 5 ‡	Billings	Yellowstone	L
Developmental Technology	Bozeman	Gallatin	L
Diamond Asphalt Co	Chinook	Blaine	M
Diamond P Ranch	West Yellowstone	Gallatin	H
Dixon Perma Dump †	Dixon	Sanders	M
Dowell Schlumberger Inc	Glendive	Dawson	M
Empire Sand & Gravel Co Inc Billings	Billings	Yellowstone	M
Energy West Gas Manufacturing Plant	Great Falls	Cascade	M
Fisher Flats Dump †	Valier	Pondera	L
Flathead Mines	Niarada	Flathead	R
Flathead Post and Pole †	Agency	Sanders	M
Fort Missoula OMS 2 ‡	Missoula	Missoula	M
Fort Peck Project ‡	Fort Peck	Valley	M

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Friday, May 05, 2006

Site	City	County	Ranking
Ft Keogh Livestock & Range Research Lab ‡	Miles City	Custer	L
General Electric Co	Billings	Yellowstone	L
Georgetown Railroad	Georgetown	Deer Lodge	H
Glasgow Air Force Base	Glasgow	Valley	M
Goldsil Mining Co	Marysville	Lewis And Clark	R
Granite Timber Co	Philipsburg	Granite	H
Great Falls City Landfill 25th Ave	Black Eagle	Cascade	M
Great Falls International Airport MTANG ‡	Great Falls	Cascade	H
Great Falls Refinery Phillips Petroleum *	Black Eagle	Cascade	R
Harlowton Milwaukee Roundhouse	Harlowton	Wheatland	M
Hart Oil Refinery	Missoula	Missoula	H
Havre Refinery	Havre	Hill	L
Haywire Mill	Yaak	Lincoln	M
Helena Regional Airport	Helena	Lewis And Clark	M
Hirschy Corrals	Wisdom	Beaverhead	M
Hungry Horse Dam Townsite ‡	Hungry Horse	Flathead	M
Ideal Basic Industry Plant Site Area	Trident	Gallatin	L
Iron Mountain Mill	Superior	Mineral	X
J & N Post and Pole †	Evaro	Missoula	M
Jardine Arsenic Tailings	Jardine	Park	R
Jet Fuel Refinery ‡	Mosby	Garfield	H
Joslyn Street Tailings	Helena	Lewis And Clark	H
Kalispell Air Force Station ‡	Lakeside	Flathead	M
Kalispell City Landfill Cemetery Road	Kalispell	Flathead	M
Kalispell Landfill Willow Glen Road	Kalispell	Flathead	M
Kalispell Pole and Timber	Kalispell	Flathead	H
Karst Asbestos Mine ‡	Gallatin Gateway	Gallatin	R
Kenison Pole Plant	Townsend	Broadwater	L
Kings Creek †	Hays	Phillips	R
Larrys Post And Treating Co	Columbia Falls	Flathead	M
Laurel Oil & Refining Co	Butte	Silver Bow	L
Lewis & Clark National Forest ‡ **	Hughesville	Judith Basin	H
Lockwood Solvent Site **	Billings	Yellowstone	X
Lohof Gravel Pit	Billings	Yellowstone	M
Luther Wood Treating Facility	Luther	Carbon	M
Malmstrom Air Force Base * ‡	Great Falls	Cascade	R
Malta Airport	Malta	Phillips	M
Marble Creek Post Yard	Superior	Mineral	L
McCulloch Purchase Station	Fairview	Richland	L

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Friday, May 05, 2006

Site	City	County	Ranking
McLaren Mill Tailings	Cooke City	Park	R
MDOT Maintenance Facility Helena	Helena	Lewis And Clark	H
Mercer Post Plant	Bozeman	Gallatin	L
Midway Store Dump †	Ravalli	Lake	M
Midwest Refining Co	Conrad	Pondera	L
Miles City Livestock Center	Miles City	Custer	M
Miles City Oil Refinery	Miles City	Custer	M
Miles City Railyard	Miles City	Custer	H
Milwaukee Road Haugan	Haugan	Mineral	H
Milwaukee Roundhouse	Deer Lodge	Powell	H
Mission Wye	Livingston	Park	H
Missoula Sawmill	Missoula	Missoula	H
Missoula Vocational Tech Center	Missoula	Missoula	M
Missoula White Pine Sash Co	Missoula	Missoula	H
Moe Chevrolet †	Poplar	Roosevelt	M
Montana Power Co Manufactured Gas Plant	Helena	Lewis And Clark	M
Montana Power Co Storage Yard	Butte	Silver Bow	M
Montana Rail Link 1930 South Avenue West Facility	Missoula	Missoula	N
Montana Sulphur and Chemical Co	Billings	Yellowstone	M
Musters Post Yard	Thompson Falls	Sanders	M
New World Mine	Cooke City	Park	H
North American Oil Refinery	Kalispell	Flathead	L
Old Agency Landfill †	Fort Belknap Agency	Blaine	H
Old Arlee Dump †	Arlee	Lake	L
Old Charlo Dump †	Charlo	Lake	L
Old Community Dump †	Ronan	Lake	M
Old Crow Agency Dump †	Crow Agency	Big Horn	M
Old Lame Deer Dump †	Lame Deer	Rosebud	M
Old Libby Airport Pole Treating Facility ‡	Libby	Lincoln	N
Old Poplar Landfill †	Poplar	Roosevelt	M
Old Stickney Dump	Missoula	Missoula	M
Opheim Asbestos ‡	Opheim	Valley	M
Oswego Landfill †	Oswego	Valley	L
Pacific Hide & Fur Billings 4th Ave	Billings	Yellowstone	M
Pacific Hide & Fur Billings Minnesota Ave	Billings	Yellowstone	M
PacifiCorp Transformer Yard	Bigfork	Lake	H
Perry Gas Plant	Sidney	Richland	M
Petroleum Refining Co	Shelby	Toole	L
Pierce Packing Plant	Billings	Yellowstone	L

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Site	City	County	Ranking
Pine Tree Timber	Belgrade	Gallatin	H
Poisoned Oats Disposal †	Browning	Glacier	L
Pony Mill	Pony	Madison	R
Prairie View Recreational Park	Billings	Yellowstone	M
Railroad Tie Treating Yard	White Sulphur Springs	Meagher	M
Rau Disposal Pit	Sidney	Richland	M
Real Log Homes Manufacturing Site	Missoula	Missoula	M
Red Rock Lakes National Wildlife Refuge ‡	Lakeview	Beaverhead	M
Reliance Refining Co	Kalispell	Flathead	H
Revais Creek Mine †	Dixon	Sanders	R
Rocky Boy Post & Pole †	Rocky Boy	Hill	M
Rocky Mountain Phosphate	Garrison	Powell	H
Roundup Landfill ‡	Roundup	Musselshell	L
Roundup Refining Co	Butte	Silver Bow	L
Russell Oil Co Billings	Billings	Yellowstone	L
Russell Oil Co Butte	Butte	Silver Bow	L
S and W Sawmill	Darby	Ravalli	H
Safety Kleen	Helena	Lewis And Clark	L
Saint Labre Plastic Factory †	Ashland	Rosebud	M
Saint Regis Battery Site	Saint Regis	Mineral	L
Sannes Farm	Silesia	Carbon	R
Scott Feed Lot	Billings	Yellowstone	M
Sluice Gulch Leaking Mine Adit ‡	Philipsburg	Granite	R
Somers Marina	Somers	Flathead	M
Stauffer Chemical Co	Ramsay	Silver Bow	R
Strongs Post Yard	Livingston	Park	L
Strunk Mining	Lewistown	Fergus	M
Summit Dana Ltd	Bozeman	Gallatin	L
Tank Hill	Cut Bank	Glacier	H
Tenmile Creek **	Helena	Lewis And Clark	H
Texaco Sunburst Works Refinery	Sunburst	Toole	L
Third Street NW Groundwater Site	Great Falls	Cascade	M
Thompson Falls Reservoir	Thompson Falls	Sanders	L
Thorium City Waste Dump ‡	Grant	Beaverhead	R
Townsend Post & Pole	Townsend	Broadwater	M
Treasure State Refining Co	Shelby	Toole	L
Tucson Hebrew Academy Cut Bank AFB †	Del Bonita	Glacier	H
Tule Creek Gas Plant Crystal Oil †	Poplar	Roosevelt	M
Tungsten Mill Tailings ‡	Glen	Beaverhead	H

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MONTANA
CECRA PRIORITY SITES

Friday, May 05, 2006

Site	City	County	Ranking
Union Oil Cut Bank Refinery *	Cut Bank	Glacier	R
Union Tank Car Co	Laurel	Yellowstone	M
Upper Blackfoot Mining Complex	Lincoln	Lewis And Clark	H
Valley Garden Vat	Ennis	Madison	L
Weowna Oil Refinery	Winnett	Petroleum	L
West Billings Solvent Site	Billings	Yellowstone	M
West Bootlegger Barrel Site	Black Eagle	Cascade	H
West Front Battery Site	Missoula	Missoula	N
West Second Street Havre	Havre	Hill	M
Western Area Power Administration Substation ‡	Shelby	Toole	L
Western By Products	Great Falls	Cascade	M
Wolf Point Refinery Kenco Refinery †	Wolf Point	Roosevelt	H
Yale Oil Corp Kalispell	Kalispell	Flathead	M
Yale Oil of South Dakota	Billings	Yellowstone	H
Yellowstone Bridge Asbestos	Livingston	Park	L

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Appendix C: Website Informational/Educational Resources

Environmental Quality Council Website:
http://leg.mt.gov/css/Services%20Division/Lepo/default.asp

Department of Environmental Quality Remediation Website:
http://www.deq.mt.gov/Rem/index.asp

DEQ Remediation Information Systems Website:
http://www.deq.mt.gov/rem/InformationSystems.asp

DEQ Remediation Digital Atlas Website:
http://www.deq.mt.gov/rem/InteractiveMaps.asp

U.S. Environmental Protection Agency Superfund Website:
http://www.epa.gov/superfund/index.htm

file

Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P.O. Box 200901 · Helena, MT 59620-0901 · (406) 444-2544 · www.deq.mt.gov

March 15, 2006

DIR-06-090-D

Honorable Brian Schweitzer
Governor of Montana
Capitol Station
Helena, Montana 59620

Re: BNSF CECRA Facilities

Dear Governor Schweitzer:

As you know, the BNSF Railway Company (BNSF) is a major polluter in the State of Montana. The company is responsible for almost one-tenth of the sites on the state Superfund (CECRA) list. Most of these sites have been listed since the mid-1980s and none of them have been adequately remediated in the 25 years since the pollution issues were identified. This is a terrible legacy for BNSF to leave with Montana, and the only way to correct this is to clean up these sites as quickly as possible. Unfortunately, these sites have languished while BNSF has engaged in legal and technical squabbles that have delayed clean up activities. That will soon change.

Montana has issues with BNSF statewide, but one of BNSF's most egregious contamination sites is in Livingston. As you know, the Consent Decree directed my department, the Montana Department of Environmental Quality (DEQ), to enter into negotiations with BNSF to fully implement the selected remedy at this site. Those negotiations resulted in the Statement of Work (SOW) for Spring 2005 Activities. Under the Spring SOW, BNSF is required to conduct certain work required in the Record of Decision. However, BNSF's actions on these tasks indicate that BNSF has no intention of actually completing the work in a reasonable or timely manner.

BNSF has impeded progress at this and other sites, bogged down negotiations with technical issues, and failed to respond to DEQ's requests and requirements in a timely manner. This is not acceptable. I sent BNSF a letter on December 6, 2005, outlining how DEQ expected to deal with BNSF on these sites. There has been no additional progress since that letter. As a result of BNSF's obstreperous behavior, DEQ feels that any further negotiations with BNSF related to the Livingston site would be a waste of valuable state time and resources.

Therefore, I recommend that you direct DEQ to terminate any further negotiations related to implementation of the selected remedy and to take over the cleanup of the

Livingston site. This includes activities under the Spring SOW as well as all other required remedial activities. BNSF's obligation will be to timely pay all the bills.

At an Environmental Quality Council meeting on January 26, 2006, BNSF indicated that it has an "open checkbook" for addressing sites in Montana. We have a right to expect BNSF to use it for the good of the state. If BNSF fails to pay all remedial action costs in a timely manner, we also recommend that you direct DEQ to take further enforcement against BNSF.

The Livingston site is one of many problems facing BNSF in Montana. Further, we recommend that you direct DEQ to take a global look at other BNSF sites and assess why things are moving so slowly. It may be necessary for the state to take further actions to remove financial and other roadblocks that prevent significant and timely progress towards cleanup and closure of other BNSF sites in the state. Finally, if BNSF continues to act in an unacceptable fashion at the other CECRA sites in Montana, we recommend that you direct DEQ to take over cleanup of those sites as well and bill BNSF for the costs incurred.

Sincerely,

Richard H. Opper
Director

BNSF RAILWAY

Mark P. Stehly

AVP Environment & Research and Development

BNSF Railway Company

2600 Lou Menk Drive
Fort Worth, TX 76131-2800

Phone: 1-817-352-1907
Fax: 1-817-352-7225

March 17, 2006

RECEIVED

MAR 17 2006

DEQ
DIRECTOR'S OFFICE

Richard H. Opper
Director
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Re: BNSF CECRA Facilities

Dear Mr. Opper:

I am responding to your letter, dated March 15, 2006, to Governor Schweitzer, regarding BNSF CECRA Facilities. BNSF Railway Company is surprised at the characterizations and inaccuracies in your letter. BNSF remains committed to remediating these CECRA sites which were impacted by historic operations. While our efforts to date have been unsuccessful in closing any CECRA sites under the CECRA program (I notice that only 5 of the 208 CECRA sites on the Montana CECRA Priority List have been closed) we are more optimistic of our success rate for closure of CECRA sites under the VCRA program where we have succeeded in closing 3 (Glasgow, Jones Junction and West Great Falls Embankment) of the 12 sites that have been closed in Montana.

The Livingston site is subject to a Consent Decree, entered into in 1990. BNSF has complied with each and every requirement of the work required under the Consent Decree in a timely fashion. BNSF is prohibited, under the terms of the Consent Decree, from initiating any remediation without DEQ approval. We have examined the record and find no instance of BNSF's failure to respond to DEQ's requests and requirements in a timely manner. The attachments show the tasks accomplished at Livingston since the Record of Decision was issued. You will note that all of the tasks have been submitted in compliance with the deadlines dictated by DEQ. As you can see, the record shows inordinate delays by DEQ and failure to give the approvals necessary for BNSF to conduct the remedial actions.

If you would please review the attached chronology of events you will find, for example, that it took DEQ three years to prepare a Record of Decision determining the remedy. It took DEQ another three years to issue the Statement of Work. During this hiatus, BNSF could not initiate remedial action. As shown on Figure 1, the amount of time that DEQ has taken to review BNSF's work plans and reports is over 4 times longer than the time BNSF spent preparing the work plans and finalizing the reports. Our experience in other states is that agency review time is a fraction of the time that the responsible party is working on the matter, not multiples.

As you know, BNSF and DEQ have been negotiating a new consent decree for remediation at Livingston. In order to keep these negotiations from delaying progress of the remediation, BNSF and DEQ agreed to move up on a number of tasks and conduct them under the existing Consent

Decree. This resulted in the Spring 2005 Statement of Work. To date BNSF has completed Task C regarding the Cinder Pile and has initiated Tasks regarding Indoor Air and Surface Soil Investigation under the Spring 2005 Statement of Work, on time in accordance with DEQ's schedule and without request for an extension. BNSF has also timely submitted technical work plans and other required deliverables for DEQ's review and approval on the remaining Tasks F, G and L. DEQ has had these submissions since May 31, 2005 and has yet to comment. Again, BNSF cannot conduct these activities unless and until DEQ gives its approval. We fail to see "what actions on these tasks indicate that BNSF has no intention of actually completing the work." BNSF has sought clarification of one of the tasks, and has had a meeting scheduled for some time to discuss this with you further. This meeting has in no way delayed or impeded any of the Spring SOW.

BNSF has also agreed to additional investigation and related tasks at Mission Wye, also subject to the Consent Decree. On November 1, 2005, DEQ submitted its requirements for further work. On December 15, 2005, BNSF accepted them without change and agreed to execute DEQ's Amendment to the Consent Decree for Mission Wye when final documents were produced. The work is on track and the approvals are pending before DEQ.

Your March 15 letter states that no progress has been made by BNSF since your December 6 letter. Attachment 2 shows the activities that both BNSF and DEQ have conducted since December. As you will see, BNSF submitted the quarterly status report, conducted the cinder pile inspection, conducted indoor air sampling, prepared and submitted Addendum 1 to Task I, mailed and evaluated the well surveys, submitted the Task J Supplemental Investigation Work Plan and has been proceeding with other, on-going activities. During the same time DEQ has, we presume, continued its review of the Task F, G and L Work Plans which your staff has now had for 9 to 10 months. As you can see, we are confused by your statement.

We welcome a frank discussion with you regarding the progress of remediation at the other CECRA sites. We believe that a review of DEQ files will confirm that BNSF has been and is in full compliance with any orders and their required schedules. Certainly, BNSF has not received any notice from DEQ to the contrary.

As mentioned, BNSF desires to complete these cleanups as soon as possible. BNSF stands ready, willing and able to properly and expeditiously perform all appropriate remedial actions at the Livingston site. We are concerned, however, that the tone of your March 15 letter and the actions proposed in it will only make a cleanup more difficult and delay closure of the site.

Sincerely,

Cliff M. Smith

for Mark P. Stehly
AVP Environment & Research Development

Attachment A

LIVINGSTON SHOP COMPLEX

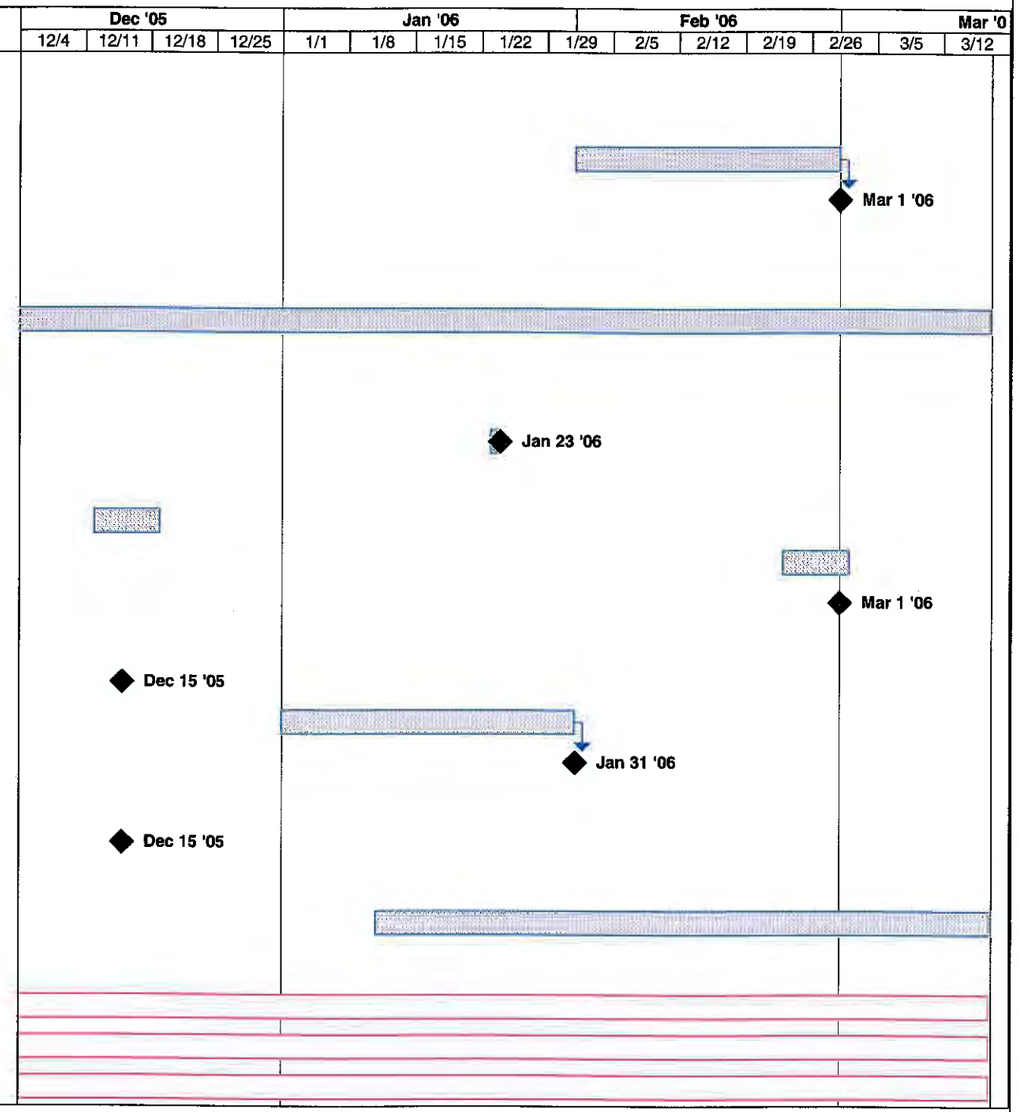
SUMMARY OF WORK PERFORMED AFTER SUBMITTAL OF FEASIBILITY STUDY

DATE	EVENT	COMMENT	On Time and According to DEQ Required Schedule
1998			
21 January 1998	BNSF submits Final Draft Primary Hydrocarbon Feasibility Study Report.		√
28 January 1998	BNSF submits Final Draft Soil and Groundwater Feasibility Study Report.		√
2000			
1 January – 21 April 2000	Electric Shop soil excavation interim remedial action		NA
2001			
September 2001	DEQ issues Record of Decision.		NA
2002			
30 May 2002	DEQ provides BNSF with Draft Statement of Work for Remedial Design/Remedial Action.		NA
6 June 2002	DEQ and BNSF meet and agree on modifications to Draft Statement of Work for Remedial Design/Remedial Action		NA
2004			
September 2004	DEQ issues revised Draft Statement of Work for Remedial Design/Remedial Action		NA
30 December 2004	BNSF submits letter to DEQ committing to proceed with an aggressive schedule to implement the highest priority subtasks (Tasks C, F, G, I, J, L) and deliverables identified in draft SOW under Paragraph 6 of Modified Partial Consent Decree.	Schedule required ten individual plans be prepared by BNSF within a 6 month period. Two plans (Task C) to be submitted to DEQ by 1 February 2005, three plans (Task I, Facility-Wide SAP, Facility-Wide HASP) to be submitted to by 31 March 2005, four plans (Task F, Task G, Task J, Well Inventory) to be submitted by 1 June 2005, and one plan (Task I) to be submitted by 1 July 2005.	√
2005			
Activities Completed During Spring 2005 SOW Negotiations			
March 2005	BNSF conducts a supplemental groundwater monitoring event in support of Task G.		√
March 2005 – 17 June 2005	Task C – Cinder pile capping remedial action constructed.		√
29 March 2005	BNSF submits Draft Task I Supplemental Investigation Work Plan for Indoor Air.	3 months to prepare. Submittal on time and according to DEQ-agreed upon schedule.	√
29 March 2005	BNSF submits Draft Facility-Wide SAP.	3 months to prepare. Submittal on time and according to DEQ-agreed upon schedule.	√
29 March 2005	BNSF submits Facility-Wide HASP.	3 months to prepare. Submittal on time and according to DEQ-agreed upon schedule.	√

ATTACHMENT 2

SCHEDULE OF ACTIVITIES - DECEMBER 2005 TO 17 MARCH 2006
Burlington Northern Livingston Shop Complex

ID	Task Name
1	**BNSF DELIVERABLES & FIELD ACTIVITIES**
2	**STATUS REPORTS**
3	Prepare Quarterly Status Report No.2
4	Submit quarterly report to DEQ
5	**OTHER ON-GOING ACTIVITIES**
6	**TASK F -STAGE I - PART 2 PILOT STUDY**
7	Draft Task F Stage I - Part 2 Pilot Study Work Plan preparation
8	**WORK APPROVED BY DEQ**
9	**TASK C - CINDER PILE CAPPING**
10	Cinder pile quarterly inspection No.3
11	**TASK I - SUPPLEMENTAL INVESTIGATION WORK PLAN FOR INDOOR AIR**
12	Indoor Air Sampling Activities
13	Prepare Addendum No.1 to Task I Supplemental Investigation Work Plan for Indoor Air
14	Submit Addendum No.1 to DEQ
15	**WELL INVENTORY**
16	Mail well survey forms to private property owners
17	Evaluate returned survey forms and update well inventory
18	Submit updated well inventory to DEQ (incl. response to comments and new information, if any, from survey)
19	**TASK J - SUPPLEMENTAL INVESTIGATION WORK PLAN FOR SURFACE SOIL**
20	Submit Task J Supplemental Investigation Work Plan - as modified by DEQ
21	**Visual Reconnaissance**
22	Visual reconniassance activities - being conducted as weather conditions permit
23	**WORK PENDING APPROVAL BY DEQ**
24	**TASK F - STAGE I - PART 1 REMEDIAL ACTION PLAN FOR VOC-CONTAINING GROUNDWATER**
25	**TASK G - STAGE I REMEDIAL ACTION PLAN FOR DISSOLVED-PHASE PETROLEUM HYDROCARBONS IN GROUNDWATER**
26	**TASK L - SUPPLEMENTAL INVESTIGATION WORK PLAN FOR BEDROCK AQUIFERS**



Project:
Date: 3/17/06

Task

Milestone

Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

April 17, 2006

DK-06-18

Mark Stehly
AVP Environment & Research and Development
BNSF Railway Company
2600 Lou Menk Drive
Fort Worth, TX 76131-2800

Re: BN Livingston Shop Complex CECRA Facility

Dear Mr. Stehly:

As you know, Brian Schweitzer, Governor of Montana, recently supported my request to have DEQ take charge of the cleanup of the BN Livingston Shop Complex CECRA Facility. This letter outlines how we will accomplish the change in approach.

The Record of Decision for the Livingston Facility defines the essential elements of the required cleanup at the Facility and identifies a number of tasks that must be completed to adequately clean up the contamination at the Facility. Those tasks include the following:

1) Task A (Sludge Removal and Disposal)
2) Task B (VOC-Containing Soil and Residue Removal/Treatment)
3) *Task C (Cinder Pile Capping)*
4) Task D (Free Product Petroleum Recovery)
5) Task E (Petroleum-Containing Subsurface Soils Treatment)
6) *Task F (Alluvial Aquifer Groundwater VOC Cleanup)*
7) *Task G (Groundwater Dissolved-Phase Petroleum Cleanup)*
8) Task H (Interim Action Completion and Confirmation Sampling)
9) *Task I (Basement VOC Gas Investigation and Removal)*
10) *Task J (Surface Soil PAH and Surface Soil Petroleum Investigation)*
11) Task K (Groundwater and Soil Lead Investigation)
12) *Task L (Investigation of VOCs in Bedrock Aquifer(s))*

13) Task M (Investigation of Newly-Identified Potential Source Areas, Newly-Identified Potential COC-Containing Areas, Newly-Identified Potential COC-Containing Media and Newly-Identified Potential Contaminants of Concern)

14) Task N (Monitoring/Maintenance and Annual Reporting)

15) Task O (Request for Controlled Groundwater Area)

The tasks listed in italics are in various stages of implementation under the 2005 Spring Statement of Work (Spring SOW). Implementation of the other tasks has been the focus of negotiations but has not yet begun.

As I've previously discussed with you and with Governor Schweitzer in my letter to him of March 15, 2006, real progress in implementing these tasks gets bogged down in seemingly endless debates with BNSF over what steps should actually be taken. With that in mind, I have outlined below how each of the above tasks will be handled from this date forward. The process is designed to avoid the problems that I believe have caused the delays in the past so that the cleanup can proceed as it should. I believe that this new approach will get us to cleanup faster, and as I've said many times, that is better for BNSF, the State of Montana, and especially the citizens of Livingston. I take you at your word that you too are interested in faster progress, and I hope to have your cooperation as we proceed.

Tasks Covered by the 2005 Spring Statement of Work

As you know, in a letter dated August 22, 2005, after extensive negotiations BNSF agreed "to implement those tasks described in the Spring Statement of Work under the terms and conditions of the Modified Partial Consent Decree." We intend to continue with the process outlined in the Spring SOW for those tasks, reserving the right to take over all or any part of that work in the future if we determine it is appropriate. DEQ will not re-negotiate any Spring SOW task/activity with BNSF. Particular aspects of the Tasks will be handled as set forth below:

- Quarterly Groundwater Monitoring
  - BNSF will continue the quarterly groundwater monitoring as directed by DEQ and will provide DEQ with reports in accordance with the Spring SOW and specific Task work plans.

- Private and Public Well Inventory
  - BNSF will update the inventory in accordance with the Spring SOW.

- Task C (Cinder Pile Capping)

- BNSF will continue to inspect the cinder pile, as required by the Spring SOW and the approved work plan, and provide DEQ with reports in accordance with the Spring SOW.

- BNSF will submit to DEQ, for DEQ's review, draft institutional control language and will implement the institutional controls upon approval by DEQ.

- Any changes in monitoring/maintenance requirements for the cinder pile will be identified by DEQ and conveyed, in writing, to BNSF. BNSF will immediately implement the changes.

• Task F (Alluvial Aquifer Groundwater VOC Cleanup), Task G (Groundwater Dissolved-Phase Petroleum Cleanup), and Task L (Investigation of VOCs in Bedrock Aquifer(s))

- DEQ will provide its comments on the draft work plans to BNSF. These comments may, to the extent practicable, be presented in redline/strikeout electronic form. Pursuant to the Spring SOW, BNSF will be afforded one opportunity to finalize the work plan by incorporating DEQ's comments/requirements within six weeks of receipt. If BNSF's revised work plan does not adequately incorporate DEQ's comments/ requirements or is not submitted timely, as determined by DEQ, DEQ will, pursuant to the Spring SOW, modify the work plan to cure the deficiencies and approve the modified work plan.

BNSF will be given one opportunity to initiate and fully implement each work plan by the established deadlines. If BNSF fails to timely and fully implement any work plan, DEQ will take over the implementation of all the particular Task activities.

• Task I (Basement VOC Gas Investigation and Removal)

- BNSF will submit the data results/report regarding the second round of sampling to DEQ in accordance with the Spring SOW.

- Based on the results of the second round of sampling, DEQ will determine the next steps to be taken to complete Task I and inform BNSF of its determination. BNSF will prepare any necessary draft Task I addenda as directed by DEQ and submit the draft addenda to DEQ. The incorporation of DEQ's comments/required changes to the draft addenda will be handled as described in the Task F discussion above.

- BNSF will be given one opportunity to fully implement the Task I work plan activities, including those in the addenda to the initial plan, by the established deadlines. If BNSF fails to timely and fully implement the work plan, DEQ will take over the implementation of all the particular Task activities.

- Task J (Surface Soil PAH and Surface Soil Petroleum Investigation)

  - BNSF, with DEQ oversight, will complete the visual reconnaissance in accordance with the Task J work plan.

  - BNSF will prepare the draft addendum required by the existing Task J work plan and the Spring SOW. The incorporation of DEQ's comments/required changes to the draft addendum will be handled as described in the Task F discussion above.

  - BNSF will be given one opportunity to fully implement the Task J work plan activities, including those in the addendum to the initial plan, by the established deadlines. If BNSF fails to timely and fully implement the work plan, DEQ will take over the implementation of all the particular Task activities.

Tasks Not Covered by the 2005 Spring Statement of Work

Consent Decree negotiations have been underway for over a year regarding implementation of Tasks A, B, D, E, H, K, M, N and O, as well as additional portions of the Spring SOW tasks. DEQ does not believe that we can reach agreement with BNSF on an appropriately modified or new consent decree. Therefore, as of the date of this letter, DEQ is terminating those negotiations. Instead, DEQ will prepare the appropriate work plans, and BNSF will be given one opportunity to provide written comments or suggested changes to each work plan and one opportunity to implement each work plan as described below.

1) DEQ will prepare the work plans for the specified tasks as it determines appropriate.

   - After DEQ provides BNSF a copy of a work plan, BNSF will have 30 calendar days to provide DEQ with one set of written comments or suggested changes to that specific work plan.

   - Upon receipt of BNSF's suggested changes, DEQ will review the suggestions and timely incorporate into the work plan any suggestions determined to be

appropriate. DEQ's Project Officer will contact BNSF's Project Coordinator for clarification, if any is needed regarding BNSF's suggestions. DEQ will not engage in debate or negotiations with BNSF regarding BNSF's comments.

- Once all appropriate suggestions have been incorporated by DEQ, the work plan will be finalized by DEQ.

2) DEQ will provide copies of finalized work plans to BNSF and offer BNSF in writing the opportunity to implement each final work plan by an established deadline. BNSF must notify DEQ in writing within 14 calendar days of DEQ's offer whether it wishes to implement the work plan.

- If BNSF elects to implement a work plan:

a) BNSF will be given only one opportunity to fully implement the work plan and complete it by DEQ's established deadline;

b) BNSF must implement the activities in strict compliance with the approved work plan and any applicable supplemental plans such as the March 2006 Facility-Wide Sampling and Analysis Plan. If field conditions or other circumstances require any changes to a work plan, only DEQ's Project Officer may alter the work plan. If DEQ's Project Officer modifies any work plan, DEQ will expect BNSF to immediately comply with the modifications; and

c) BNSF must notify DEQ of its schedule to conduct field work at least 10 business days prior to each field event so DEQ can arrange to observe work activities and potentially collect split samples.

If BNSF fails to timely and fully implement any work plan, DEQ will take over the implementation of all the particular Task activities. If DEQ takes over the implementation of any Task, BNSF must provide DEQ, in both electronic and hard copy form, all data related to the Task, including, but not limited to, all maps, laboratory data and compiled data summary tables, within 14 calendar days of DEQ requesting such data.

- If BNSF elects not to implement a work plan or fails to accept DEQ's offer, in writing, within 14 calendar days after DEQ makes its offer, DEQ will implement the work plan.

I have directed DEQ personnel to implement these changes immediately. DEQ reserves the right to make modifications to this process if we determine that changes will allow us to better meet DEQ's statutory obligation to protect human health and the environment, if we determine that BNSF is not performing or will not perform any remaining portion of the work properly and expeditiously, or if we determine there are

other reasons for modifying the process. We also reserve the right to take any other actions authorized by law.

As you know, under various statutory authorities, as well as the Modified Partial Consent Decree, BNSF is obligated to reimburse DEQ's costs for the Facility. We intend to continue billing BNSF under the applicable authorities for costs incurred. While bills to date have been submitted quarterly, I have directed DEQ personnel to begin invoicing BNSF for DEQ's response/remedial action costs on a monthly basis. This will allow you to see our costs on a more current basis and should work better for both of us.

In addition, we at DEQ are reviewing what changes we can make in our internal processes in order to proceed to cleanup more quickly. One step we already anticipate is greater use of contract support, and we will continue to evaluate what other improvements we can make internally.

I know you agree with me that progress at this Facility has been far too slow, and again, I am implementing these changes to get to cleanup faster. I believe that this new approach will be in the best interests of all of us, but especially the community of Livingston. If you have any questions or concerns, please contact me. Meanwhile, I look forward to a new era of progress.

Sincerely,

Richard H. Opper
Director

c: Sandi Olsen
Michael Trombetta
Denise Martin
Laura Vachowski
Dave Smith, 139 N. Last Chance Gulch, Helena, MT 59601

BNSF RAILWAY

Mark P. Stehly

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April 21, 2006

Richard H. Opper
Director
Montana Dept. of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

RE: Livingston Shop Complex

Dear Director Opper:

This is to follow upon your April 17, 2006, letter and our telephone conversation today regarding the Livingston Shop Complex. As we discussed BNSF is pleased with the Department's decision to move expeditiously toward the completion of the Livingston cleanup.

While BNSF has concerns about some of the points in your letter, we do not believe a point by point discussion would be productive. We also recognize, and hope the Department does as well, that the existence of the Modified Partial Consent Decree and the need for a new or amended consent decree is a complicating issue with respect to the framework set forth in your letter. It should be clearly understood that BNSF is not waiving or relinquishing any rights it has under the MPCD or any applicable law.

I would like to schedule a meeting with you as soon as possible to accelerate implementation of the remaining items associated with the cleanup of the Livingston site. I will call you to see what dates you might be available. In closing, BNSF shares the Department's desire to accelerate the progress of cleanup at Livingston and look forward to working with you and your team.

Sincerely,

Mark P. Stehly
AVP Environment & Research Development

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DEQ
DIRECTOR'S OFFICE

Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

June 30, 2006

Todd Everts
Environmental Quality Council
Legislative Environmental Policy Office
P.O. Box 201704
Helena MT 59620-1704

Subject: HJR 34 Draft Report

Dear Todd:

Thank you for the opportunity to participate in the HJR 34 study and to provide comments on the committee's draft report. I look forward to the development of final recommendations from the committee and the opportunities for program improvement that those recommendations will provide.

I'm proud of the work we've done cleaning up sites through the State Superfund process, particularly in light of the resource constraints under which we have had to operate. Although we have had our share of success, there is a need for and opportunities to improve the manner and speed with which we proceed to cleanup at our contaminated sites. I'd like to commend you as the Legislative Analyst and the members of the EQC Agency Oversight Subcommittee for your efforts to improve the State Superfund process. We believe the Subcommittee's work will help us address contamination issues at listed sites more efficiently, and we look forward to seeing the Subcommittee's final recommendations.

I have enclosed the department's comments on the draft report for your consideration. Should you have questions, please do not hesitate to contact Sandi, Denise, or me. Thanks again for your good work on this project.

Sincerely,

Richard H. Opper
Director

Enclosures: Comments on Draft Document

cc: Tom Livers – DEQ Deputy Director
Sandi Olsen – DEQ Remediation Division
Denise Martin – DEQ Site Response Section Manager

DEQ Comments and Suggestions for the HJR34 Study: Options for Accelerating the Pace of State Superfund Cleanups

The following sections summarize DEQ's perception of the issues we are all trying to address. These are captured in problem statements followed by background information for context and possible ways to address the problem identified.

Problem I: Recruitment and retention problems create backlog in the day-to-day management of state superfund projects.

Background: Prolonged vacancies occur as a result of staff turnover, lack of staff longevity, and unsuccessful recruitments. During vacancies, the section manager must delay work on projects until a new project manager is hired. Once new employees are hired, the section manager becomes responsible for most of the training and day-to-day oversight to ensure continuity and quality of outgoing work products and defensibility of DEQ decisions.

Staffing problems are partly attributable to low salaries. Historically, DEQ pay increases have not kept pace with market salaries for work done by environmental specialists. This had resulted in increased vacancy rates and recruitment difficulties. One CECRA position is now in its fourth recruitment under a situational pay exception.

Possible Solutions: To enhance recruitment and retention of qualified staff, DEQ is working aggressively to become more competitive in salaries.. The conversion to Pay Plan 20 has resulted in improved retention of environmental specialists agency-wide. Although Pay Plan 20 affords us the tools to become more competitive, funding the pay plan continues to be the challenge.

In May DEQ implemented a department-wide salary adjustment to ensure no employees other than those in training assignments earn less than 80 percent of the market for that job. The plan graduates up to a threshold of at least (?) 92 percent of market for employees with at least 25 years of job-related experience. DEQ's senior management initially had hoped to go even further in closing the gap to market, but determined the costs of moving further were prohibitive. As is, significant funds were diverted either from program operating budgets or staffing reductions to pay for these increases.

In addition, DEQ management is working with the Montana Public Employees Association (MPEA) to establish additional pay mechanisms to reward competencies and performance. Once in place, DEQ could reward performance and recognize successful outcomes in ways that would increase retention of highly qualified employees.

Problem II: Cleanup standards are perceived to be moving targets and DEQ requires so much analysis that it experiences "paralysis by analysis."

Background: Under CECRA, DEQ has historically provided flexibility to potentially liable persons (PLPs) to utilize site specific information to establish appropriate cleanup levels and propose various cleanup options at individual sites. Establishing site-specific cleanup levels takes time because it involves extensive collection and analysis of data, and the science utilized in conducting these analyses continues to evolve.

Possible Solutions: DEQ could adopt rules setting default cleanup levels for the various contaminants encountered at state superfund sites. The benefits to this approach include predictability, certainty, and reduced time spent determining site-specific cleanup levels. The drawback is that default cleanup levels may potentially be overly stringent for some sites. This would accelerate the pace of cleanup decisions but would reduce flexibility and could result in higher remediation costs at various sites due to the conservative nature of default numbers.

Problem III: The cleanup process is too slow.

Background: Cleanup of contamination under CECRA is a multi-step process. Progress towards cleanup occurs in several major steps including: good faith investigations, provision of proper and expeditious opportunities for PLPs to undertake the cleanup process, RI/FS, interim actions, pilot studies, proposed plan, ROD, Remedial Design, and Remedial Action.

A typical good faith investigation can take at least one year to identify all the PLPs at a site and to provide notice that they have an opportunity to properly and expeditiously complete the activities necessary to remediate the contamination. This step may be unnecessary because DEQ has not identified a significant, previously-unknown PLP at any site as a result of completing these investigations.

Once notice is provided it can take another two years to work through an incremental analysis of whether the PLP is indeed undertaking the required activities in a proper and expeditious manner. DEQ cannot issue orders to expedite the process until a PLP fails to perform the work. Typically the PLP will undertake the required activities in a very incremental fashion – completing only part of what is required but not all, or counter-proposing to do the work in a phased approach. DEQ historically has been flexible in allowing PLPs to conduct work incrementally and has been very conservative in reaching a conclusion that a PLP is not moving forward in a proper and expeditious manner. Although DEQ is managing some sites under order, all of the orders at these sites except one were issued prior to the Legislature modifying CECRA to require DEQ to provide an opportunity for proper and expeditious cleanup.

At every site, cleanup standards are established based on the type of contamination, site specific conditions, pathways of exposure and the resultant risk. These analyses take

time (see response to Problem II). The longer each step takes and the more latitude DEQ provides the PLP, the greater the likelihood that the slow down in cleanup will result in staff turnover and recruitment difficulties.

Possible Solutions:

1. The requirement for a "good faith investigation" could be deleted from CECRA, leaving the requirement that DEQ use "diligent good faith efforts." This would expedite the process of identifying the PLP responsible for taking the lead on remediation activities without relieving other PLPs of financially responsibility. The other PLPs identified during a "good faith investigation" do not typically have the expertise or resources to remediate the site, and searching for them delays cleanup. Ultimately, the lead/primary PLP would still have the ability to seek contribution from these other parties, to the extent assets are available.

2. Modify the statute to remove restrictions on DEQ's ability to compel PLPs to undertake cleanup prior to offering the PLP an opportunity to do the work properly and expeditiously. This would not impair a PLP's ability to undertake proper and expeditious cleanup through other statutory avenues such as Voluntary Cleanup and Redevelopment Act (VCRA) statutes. VCRA also provides timeframes for document turnaround, thereby meeting the needs of many of the PLPs for faster DEQ action independent of turnover and recruitment issues. DEQ and the PLP also could negotiate administrative orders on consent if the site does not go through VCRA.

3. The opportunity to establish site-specific cleanup levels could be eliminated by mandating in statute that DEQ establish standardized cleanup levels through rulemaking that would apply at all sites. This would eliminate any potential issues with changing standards and would expedite cleanup decisions. As previously mentioned, however, the cost of cleanup may be higher as cleanup standards would have to be conservative enough to ensure appropriate cleanup under all situations.

4. Interim actions are necessary to quickly address direct immediate impacts to human health such as the presence of vapors at explosive levels or wells contaminated above Maximum Contaminant Levels (MCLs). However, interim actions may delay overall progress and ultimate site delisting by focusing resources away from the investigation and cleanup. DEQ has approved dozens of interim actions over the years, each resulting in some delay towards completion of site-wide plans and solutions. Site-wide cleanup can be expedited by eliminating the opportunity for PLPs to complete interim actions except in certain situations to quickly address acute risks to human health, safety, or the environment.

Problem IV: DEQ seems risk averse and is concerned it cannot go back and require additional remedy or more investigation.

Background: DEQ tries to ensure that it does not create site-specific loopholes in the cleanup process by overlooking information that prudently should have been obtained and utilized in the decision making process. DEQ's goal under CECRA is to ensure that residual contamination does not create unacceptable risk. Often the PLPs and DEQ have a different view of what prudently should be known in order to make good decisions.

Solution: The statute could be modified to clarify that DEQ has the authority to revisit a cleanup plan and to require additional investigation and remedial action in the event the implemented plan does not achieve the desired results. This would reduce the amount of scientific debate that occurs and the supplemental studies that are necessary to reach defensible decisions. Both BNSF and International Paper indicated to EQC that they would support this kind of approach; that they are committed to cleanup and want to be able to try different cleanup approaches and to go back if a given approach does not work. This approach would likely be acceptable for PLPs with significant resources. However, some PLPs may only have the money to get it right the first time and DEQ does not want them to fail.

Problem V: Funding of the CECRA program appears to be problematic.

Background: CECRA is funded through Resource Indemnity Trust (RIT) and cost recovery revenues. At present (FY2006), DEQ anticipates receiving $46,000 in RIT revenues and $1.3 million in cost recovery revenues. However, since 1999 more than $.5 million in expenses have been incurred that cannot be recovered *without* litigation or a significant change in philosophy by the PLP. Although statute provides a mechanism for cost recovery, currently the statute does not clearly provide for the inclusion of costs in unilateral orders issued by DEQ. In addition, as RIT revenues decline, less money is available to jump start additional DEQ actions to expedite and encourage cleanup.

Possible Solutions:

1. Clarify DEQ's authority to order the payment of remedial action costs. This would provide incentive for PLPs with outstanding financial obligations to DEQ to remit overdue funding because a PLP's failure to comply with orders would trigger certain penalty provisions of the law.

2. The Legislative Finance Committee is currently evaluating the use and flow of RIT revenues under HJR36. Committee recommendations may reduce issues with RIT cash flow.

3. Currently the statute requires cost recovery within six years of initiation of a final permanent remedy. Under this language, DEQ must divert revenues to CECRA litigation in order to avoid triggering the statute of limitations. If this portion of the statute were modified to require cost recovery within six years of completion of the remedy, financial resources could be more directly applied to providing for the effective implementation of remedial actions.

Appendix A:
Specific Comments Regarding "Improving the State Superfund Process" Draft Report

(1) Page 7, last paragraph, second sentence: DEQ also oversees cleanups under other statutory authority. We recommend inserting ", but are not limited to," between "include (insert) petroleum."

(2) Page 9, 1st complete paragraph: Please delete "at non-National Priority List facilities." DEQ can take actions at CERCLA sites.

(3) Page 10, 2nd paragraph: The last sentence states there are 14 National Priority List (NPL) sites in Montana. Elsewhere the document refers to 15 NPL sites. The confusion most likely stems from BN Somers. It was never listed on the NPL, but is being cleaned up under CERCLA authority and has been addressed in the same fashion as other NPL sites in Montana.

(4) Page 10, 3rd paragraph: Please insert "ensuring" before "investigation."

(5) Page 10, 5th paragraph, last sentence: Please clarify that the enforceable legal agreements at CERCLA sites are between EPA and the responsible parties.

(6) Page 10, last paragraph: Please delete "asbestos and." The most typical exclusion under CERCLA that will send a site to the CECRA program is the petroleum exclusion.

(7) Page 11, 2nd complete paragraph: Responsible parties often seek contribution from others to help pay for the investigation and cleanup at superfund sites. We recommend adding "or seek contribution from other responsible parties" to the end of the sentence.

(8) Page 11, footnote 2: The reference should be changed to Appendix A.

(9) Page 17, 3rd paragraph: Attached is the VCRA registry. Please clarify the appendix designation.

(10) Page 18, 1st full paragraph: Please remove the statement that the orphan share receives money from the metal mines tax as it no longer does. The amount in the fund should be increased to $8.1 million based on the most recent budget status report.

(11) Page 18, 2nd full paragraph, 1st sentence: Please change "submitted" to "paid."

(12) Page 18, 2nd full paragraph, last sentence: Please change "submits a claim" to "is reimbursed."

(13) Page 21, Figure: It is unclear on the map, but there should be two NPL circles for Libby; one for the groundwater site and one for the asbestos site. The number of CECRA sites in parentheses doesn't match with the numbers on page 20. We provided additional location information to NRIS for some sites that inadvertently did not have latitude/longitude information available in the database. Please verify that the map was generated using the information that was subsequently provided. Also, we are confused by the reference to "current non-NPL CERCLA sites (42) and "delisted non-NPL CERCLA sites (4)." The numbers don't seem to correlate to the Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) sites in Montana (see the attached CERCLIS list of active and inactive sites in Montana).

(14) Page 22, 1st paragraph, last sentence: The last phrase should be made into a separate sentence. Sites that were cleaned up through voluntary efforts were appropriately listed and because they were on the radar screen, some companies chose to clean them up voluntarily prior to VCRA. DEQ was able to verify (typically through site visits and sampling) that the sites were cleaned up and subsequently delisted them.

(15) Page 22, Table 3-1: The total in the last O&M column should be 3 sites. The total in the last column for referred should be 48.

(16) Page 22, Table 3-2: Please add a footnote for BN Somers for total listed NPL sites or perhaps add another row designated as "other" and reflect BN Somers in that row.

(17) Page 23, Table 3-3: In the first paragraph, please indicate that these data represents a snapshot in time and that it changes as the databases are updated. In the fourth sentence of the footnotes, please add "because VCRA was not established until 1995" to the end of the sentence.

(18) Page 24, Table 3-4: In the heading, please delete "at maximum and high priority sites and for voluntary cleanups" since this language applies to CECRA sites and the table is describing CERCLA actions. The number of actions should be totaled in the last row.

(19) Page 30, Panel Perspectives, 1st paragraph, lines 7 through 9. We suggest the following revision: "DEQ went beyond its statutorily required public involvement activities with this site by releasing a number of documents for public comment."

(20) Page 31, 1st full paragraph, line 4: This sentence references a document submitted in 1999 that was not reviewed until 2004. For clarification the referenced document was submitted by one of the PLP's consultants but was not required or requested by DEQ and was therefore not a priority for DEQ review. The delay in reviewing this document did not interfere or impede with any actions needed to address immediate human health impacts.

(21) Page 31, 1st full paragraph, last sentence: DEQ does not agree that the private litigation resulted in a better understanding of the site. DEQ requires remedial investigations (site

characterization) of CECRA sites, thus investigations conducted for litigation purposes did not provide any information that DEQ would not have required otherwise.

(22) Page 31, 2nd paragraph, 1st sentence: DEQ would like to clarify that the PLPs did not "provide" money for DEQ oversight, but rather DEQ recovered its remedial action costs following expenditure as required by § 75-10-722, MCA.

(23) Page 31, 3rd paragraph: DEQ has not treated the City of Bozeman any differently than other PLPs at the Bozeman Solvent Site (BSS). DEQ acknowledged voluntary and required actions conducted by both the City of Bozeman and Jewel at the BSS in DEQ's fact sheets and public meetings.

(24) Pages 32 and 33, last paragraph continued to next page: DEQ agrees that public meetings are essential to keeping the public informed. DEQ has petitioned for controlled groundwater areas but it is important to coordinate with the local community, particularly when there is an established local water quality district. DEQ would also like to clarify that it was responsive to the community, local government, and development needs for growth while developing the Controlled Groundwater Area (CGWA) with the Department of Natural Resources and Conservation (DNRC). The CGWA Order is flexible and does not put a moratorium on installing groundwater wells. DNRC has the authority to enforce the CGWA Order. In addition, the Board of Water Well Contractors has authority over the drilling community and DNRC provided notice of the CGWA to all well drillers. A technical review group consisting of DNRC, DEQ, the City, Jewel, the Gallatin County Local Water Quality District, the Gallatin County Board of Health, and the BSS Citizen's group, meets and provides technical assistance to DNRC on the CGWA as needed. DEQ is willing to continue working with DNRC, the local government, the PLPs, and the community to explain the CGWA.

(25) Page 39, 2nd complete paragraph: It is important to note that eight interim actions were completed between the time the consent decree was signed and the record of decision was issued. The interim actions addressed obvious sources of contamination at the site, which helped reduce the risk posed by some of the sources, but did not completely clean up the site. While there were other factors that also contributed to the regulatory process taking longer than typical, focusing resources on interim actions did delay completion of the PLP generated remedial investigation and feasibility studies, and subsequent DEQ decision documents. There is always a tradeoff in prioritizing interim actions over site-wide activities; such actions delay the overall cleanup. DEQ does not have the resources to assign additional project officers to interim actions.

(26) Page 40, last paragraph: The reference to Appendix G should be changed to Appendix D.

(27) Page 44, Section 4, *Panel Discussion Highlights*, Who Participated?, 3rd bullet: "City of Livingston" should read "City of Lewistown."

(28) Page 45, Site Quick Facts: Please change the second date listed for CECRA to "CERCLA" since the site became an NPL site on December 1, 2000. Please indicate that

there was one interim cleanup action (extension of the public water supply to area with impacted drinking water wells). Also, please clarify that there has been one project officer since it became an NPL site.

(29) Section 6, Survey Results, Summary of UM Findings for EQC HJR 34 Study – Table: Under the Challenges column for "Lack of State Funding," the row for Upper Tenmile notes this as a major issue and the footnote indicates that certainty in multi-year funding and transparency of funding decisions is the issue. Upper Tenmile is a CERCLA site that is being cleaned up using federal funds. Please note that "State" funding as it is referred to in this table is not the issue.

(30) Section 6, Survey Results, Summary of UM Findings for EQC HJR 34 Study – Table: It is unclear what the footnotes "o" through "u" apply to on the table.

(31) Section 6, Summary of Findings (Table), Brewery Flats: Under the columns with the heading "Challenges," "Slow Document Review" is identified as a minor challenge for Brewery Flats. Under the columns with the heading "Solutions," "Deadlines for Document Review" is identified as a solution. Please note that because of the statutory review times (deadlines) that are incorporated into the VCRA process, it is confusing why document review time is identified as a challenge for Brewery Flats. DEQ met all Voluntary Cleanup Plan (VCP) document deadlines throughout the Brewery Flats VCRA process; therefore, it is unclear why this observation and recommendation was made. Please delete the reference to "Slow Document Review" as being a minor challenge at this site.

(32) Section 6, *The Bozeman Solvent Site (BSS): A consideration of the History, Successes, and Delays.*

- Page 1, 4th paragraph, line 5: This sentence refers to a document that took six years to review. For clarification, the referenced document was submitted by one of the PLP's consultants but was not required or requested by DEQ and was therefore not a priority for DEQ review. The delay in reviewing this document did not interfere or impede with any actions needed to address immediate human health impacts.

- Page 1, 4th paragraph, last sentence: DEQ wants to clarify that it asked the City and Jewel if they would be willing to conduct the risk assessment jointly; they agreed.

- Page 2, 3rd paragraph: DEQ disagrees that removing the BSS from the CECRA process is an option because impacts to human health were averted. Providing alternate municipal water is protective of human health, but does not protect the environment. The intent of CECRA is to address contamination that may pose an imminent and substantial threat to public health, safety, or welfare or the environment. Currently, perchloroethene (PCE) concentrations in groundwater at BSS exceed Montana's Numeric Water Quality Standard (DEQ-7) for groundwater and the US EPA's maximum contaminant level (MCL) for drinking water. Also, PCE has been detected on the north side of the East Gallatin River, where there is no

alternate municipal water supply. DEQ believes that the BSS, as well as other sites of similar complexity, are best addressed through CECRA.

- Page 2, last bullet item: Please see previous response. Rules are in place for delisting facilities from the CECRA priority list (ARM 17.55.114). In accordance with these rules, DEQ shall consider the following in determining if a facility can be delisted: investigation or risk assessment demonstrate that additional remedial action is not appropriate to address the contamination associated with the site; and PLPs have completed all appropriate remedial actions, including a final long-term remedy, required by the department. Neither of these conditions has been met for the BSS.

(33) Section 6, S&W Sawmill: DEQ's Orphan Project:

- Page 4: On the first line, DEQ believes the authors should clarify "by the community" after risk since DEQ has identified and perceives a risk to human health and the environment at this site.

- Page 4: In the third sentence of the third paragraph, DEQ wants to clarify that "state" should be changed to "federal" and "federal" should be changed to "state" since the well water exceeds the state standard for dioxin but not the federal standard.

- Page 4: With regard to recommendation number 1, DEQ already maintains an electronic clearing house with information about the status of this site and the other state superfund sites. All the information in the database is available via the internet at DEQ's website.

(34) Section 6, Brewery Flats Summary Report (page 3):

- 3rd paragraph: Some clarification is required regarding the identification of delays as being attributed to scheduling problems. Because the cleanup being pursued under VCRA is voluntary, the impetus for creating and maintaining a schedule is the responsibility of the applicant. Again, statutory review times (deadlines) are incorporated into the VCRA process to ensure that DEQ maintains its scheduled obligations with respect to each VCP submitted. Therefore, the delays discussed in this summary and elsewhere (Summary of Findings) in this section are more a function of communication than of scheduling. With respect to Brewery Flats and as noted in DEQ's presentation to the EQC subcommittee, the City of Lewistown's "envisioned use" for the Brewery Flats property changed with each draft VCP submittal, which then impacted the regulatory requirements (including cleanup standards) within each of those submittals. The VCP process may have been extended further than was necessary due to the number of substantive changes required as a result of the change in projected use of the property. It is important to note that a firm understanding of the applicability of the regulatory requirements by the consultant during the design phase of the VCP process is critical to maintaining an applicant's desired schedule. In the case of Brewery Flats, a better understanding of

the regulatory requirements during the design phase could have reduced the number of VCP document iterations that were required within the process.

- 4th paragraph, item #1: Please see previous comment regarding scheduling delays.

- 4th paragraph, item #4: DEQ already makes this determination on a site-by-site basis and any information required in the VCP was necessary for DEQ to approve the proposed cleanup.

(35) Section 6, Tenmile Summary (page 7): This summary is incorrectly titled.

(36) Section 6, Survey Results: Was an executive summary for Burlington Northern Livingston subsequently provided? If so, please include it in the final document.

(37) Section 7: As we work through our discussion on improving the process, it is important to remember key definitions. Remedial action/cleanup means all parts of the state superfund process including administration of the statute, identification and notification of PLPs, investigation, monitoring, evaluation of alternatives, interim actions, enforcement and related activities. It is not just simple cleanup. It is also not about cleaning up every last bit of contamination. Cleanup decisions are based on alternatives that ensure protectiveness of public health safety, welfare, or the environment and that comply with environmental laws.

A superfund facility includes any place where contamination has come to be located. Investigation *cannot* be limited to only some sources and it cannot be limited to only some property. This would not meet CECRA standards to be protective of human health and the environment. For example, if an investigation is limited to property boundaries where the source of contamination is located, DEQ would not be able to determine impacts from a contaminated groundwater plume that has migrated to adjacent properties, including to any private or public wells.

The report recommendations are listed below with a DEQ response to each recommendation.

1. Benchmarks

a. Statutorily establish the goal of December 2020 when all CECRA sites have been either cleaned up or all final decisions made concerning remedies. Implementation of certain remedies is expected to continue after December 2020. Require DEQ to provide biennial reports on the progress of meeting this goal.

DEQ Response: Resources are critical to achieving any statutory goal. In addition, the Legislature must determine how it wants to balance the responsibilities of the

department and the PLPs as it makes achieving this goal a priority. DEQ can share its annual work plans and annual reports with EQC or provide more tailored reports.

b. Statutorily require DEQ to generate and submit a "Four Year Plan of Action" report to the EQC and Legislature. The report will contain goals and schedules for progressing active remediation projects.

DEQ Response: DEQ can develop four year work plans with goals and schedules for the EQC and the Legislature for active sites. However, the development and meeting of schedules will be dependent on many factors including but not limited to cash flow, turnover and recruitment, and accuracy of site-specific information as well as the cooperation of the potentially liable persons.

c. Statutorily require DEQ to generate and submit a yearly "CECRA Cleanup Progress Report" to EQC and the legislature using a format provided by EQC.

DEQ Response: DEQ can generate and submit yearly progress reports.

d. DEQ should place every site on a timetable with specific milestones.

DEQ Response: DEQ can place active high and maximum priority sites and CALA sites on timetables with specific milestones. Those timetables and milestones will change as stakeholders ask for reasonable modifications and as new site information indicates changes are necessary or as the need for interim actions is identified. DEQ does not have the information or the resources necessary to identify timetables and milestones for other sites, including voluntary cleanup sites, which allow the applicant to determine the schedule for submitting voluntary cleanup plans.

2. Program Resources

a. DEQ should evaluate and develop a revised compensation plan and/or revised job description in order to attract and retain sufficient project managers with adequate skill sets.

DEQ Response: DEQ is utilizing Pay Plan 20 as authorized by the legislature to improve employee compensation. Performance and bonus pay processes are currently being developed in a consensus process with MPEA. Each project manager has an established job profile that accurately reflects employee duties and fully utilizes market information to optimize salaries within established pay scales in compliance with existing labor and employment laws, market information, legislative funding limits and union agreements. DEQ re-evaluates job profiles with every new vacancy and re-negotiates pay scales with MPEA every two years as new market information becomes available.

DEQ has, within the limits set by the Legislature, utilized its operating budget twice to negotiate raises with MPEA for staff salaries above and beyond that set in the state pay plan in order to remain competitive with the market. The Legislature has not allowed for the backfilling of operating costs in program budgets in this situation.

b. DEQ should provide incentives for competent site managers to remain with DEQ.

DEQ Response: DEQ is working with MPEA under Pay Plan 20 to establish a system for providing incentives to employees as described above. It is hoped that some components of this system will be in place by the end of the calendar year.

c. DEQ should hire qualified outside consultants to perform routine CECRA oversight functions.

DEQ Response: DEQ routinely hires qualified outside consultants to perform CECRA oversight functions and will continue to do so, and recovers those costs from PLPs.

d. DEQ should evaluate and revise the procurement process for the use of technical consultants to perform standard technical support functions on CECRA sites.

DEQ Response: DEQ routinely utilizes the Department of Administration's codified state procurement processes to procure the services of technical consultants to perform standard technical support functions on CECRA sites (see previous comment). DEQ's Remediation Division is currently going through the procurement process to ensure an adequate number of consultants continues to be available to assist DEQ.

e. The Legislature/DEQ should authorize PLP's to fund site manager positions. Site managers hired by DEQ and funded by a PLP, would be dedicated to addressing the PLP's site.

DEQ Response: CECRA/DEQ requires PLPs to fund site manager positions for active maximum and high priority sites. These positions are dedicated to addressing PLPs' sites. Issues arise when turnover and recruiting difficulties occur. DEQ typically bills PLPs quarterly for these services.

f. The Legislature should fund the CECRA program adequately.

DEQ Response: DEQ concurs.

g. The Legislature should base any future budget increases on improvements to the process that result in better work products by increasing efficiency and shortening the time frames of all duties and studies involved in the cleanup process.

DEQ Response: DEQ looks forward to suggestions from this committee for increasing its efficiency. Efficiency will also be increased as retention of employees increases. Currently funding issues are tied to declining RIT interest earnings.

Under the current state system for budgeting, as project manager positions are filled, additional budget will be needed simply for contracted services to get the job done. If this funding is available only under the conditions noted above, it may be difficult to accelerate the pace of cleanups regardless of the quality of work products and timeframe management. Funding must also be available to empower employees to utilize or contract for the services needed to get the job done. As employee longevity and experience increase, DEQ is putting systems in place to accelerate review of technical documents; however, this is only one factor out of many that influence the pace of cleanup.

3. Communications

a. The DEQ should convene "action checklist" meetings with PLPs (with all decision makers attending) to resolve all pending issues.

DEQ Response: DEQ will continue to utilize action checklists to increase the productivity of meetings.

b. The DEQ should improve channels of communication with the PRPs and the public and should take steps to avoid systemic problems such as "paralysis by analysis."

DEQ Response: DEQ continually strives to ensure there is adequate communication with the PLPs and the public by generating fact sheets, holding public meetings, providing website information, and being available for one-on-one discussions. In addition, project managers assigned to all active projects are responsible for effectively communicating on a routine basis with the PLPs and the public. DEQ provides communication training, community involvement training and meeting management training to all of its project managers; management and staff are routinely available for meetings as required, needed and/or requested.

DEQ will continue to identify other ways to improve channels of communication and to minimize the potential for "paralysis by analysis" to occur.

b. The DEQ or EQC should develop a citizen's guide to CECRA to assist citizens and communities in understanding the CECRA process.

DEQ Response: DEQ agrees that a citizen guide would be useful.

4. Enforcement

a. Either through statute or administrative rules, the Legislature and/or DEQ should develop a framework for more timely and consistent use of DEQ's enforcement authority.

DEQ Response: DEQ suggests that more timely and consistent use of DEQ's enforcement authority can occur if the requirement to conduct a good faith investigation to identify PLPs and provide "proper and expeditious" notice is deleted from the CECRA statutes. Both of these requirements add significant delay to the process that could easily be addressed through the issuance of unilateral or consent orders.

In addition, DEQ must have the financial resources to use the authority it currently has to undertake necessary actions (including emergency actions) when PLPs fail to perform those actions and to pursue legal actions to recover those costs and potential penalties.

b. Either through statute or administrative rules, the Legislature and/or DEQ should allow greater flexibility and enforcement of institutional controls.

DEQ Response: CECRA contains institutional control authority that DEQ regularly uses on CECRA sites. DEQ also suggests that it be given the authority to place deed notices on contaminated property to encourage prompt cleanup and to ensure potential purchasers are given notice of contamination issues. It is important that when institutional controls are used, long-term enforcement issues are considered. When the controls are applied, the property may have limited availability for certain future uses. When community land use needs change, there may be demand for additional cleanup in order to increase the potential uses for the restricted property. In addition, it is important to consider information from recent EPA studies on the effectiveness of institutional controls at federal sites across the country.

5. Site Cleanup Process

a. The DEQ should amend or adopt administrative rules to ensure that a site listed as a priority receives treatment throughout the cleanup process.

DEQ Response: DEQ does not change the priority a site receives in the cleanup process. However, when staff vacancies occur, it is difficult and typically inefficient to pull a project manager from another site to fill in until such time as the departing project manager has been replaced.

The Legislature did place a priority on voluntary cleanup plans under VCRA, and set aggressive deadlines in statute for review of those plans. As a result, staff assigned to other sites sometimes must delay their work on those sites in order to meet VCRA

deadlines. Because we can't predict the number or schedule of VCRA submittals, it would be inefficient to dedicate staff just to VCRA sites.

b. Either through statute or administrative rules the Legislature and/or DEQ should define DEQ's management role and determining cleanup criteria. This may include more standardized and consistent risk-based calculations.

DEQ Response: DEQ has historically provided flexibility to PLPs to develop appropriate site-specific cleanup levels at sites. DEQ could adopt rules setting default cleanup levels for various contaminants encountered at state superfund sites. This would accelerate the pace of cleanup decisions but would also reduce flexibility for PLPs and may increase cleanup costs.

c. Either through statute or administrative rules the Legislature and/or DEQ should consistently promote and emphasize the use of interim remedial actions to effectuate reduction of risk on CECRA sites.

DEQ Response: DEQ has always considered the use of interim actions to reduce risk and to facilitate development. At some sites such as Missoula White Pine Sash, interim actions have delayed completion of a site-wide remediation plan and the record of decision because resources are reallocated to the interim actions. (Also see comments on page 39.)

d. Ensure (through Legislative oversight) that the DEQ's CECRA site cleanup process (including policy and rules) adheres to (and does not exceed) the Montana Constitution's definition and the Legislature's intent regarding "adequate" remedies.

DEQ Response: DEQ is unclear what is meant here.

e. The Legislature should authorize the DEQ to establish appropriate cleanup standards, criteria, guidelines, and timeframes that ensure adequate remedies.

DEQ Response: DEQ currently requires compliance with DEQ-7 water quality standards, and with air quality standards as well as other applicable regulatory statutes to form the basis for remediation decisions that establish the preferred alternative for cleaning up contamination to levels that do not pose unacceptable risk.

CECRA attempts to establish the balance between enforcement and encouragement, between cooperation and coercion and between predetermined requirements and site-specific flexibility in order to achieve cleanup of contaminated sites. The statute provides PLPs the opportunity to conduct cleanup and the department takes enforcement actions only when the PLP falls short. If DEQ provides flexibility to the PLP (e.g., giving deadline extensions, having meetings to discuss comments), we

delay cleanup. As we reduce flexibility cleanup can occur quicker. As the statute changes through time, the balance between differing goals will shift. That said, DEQ will evaluate the statute in the coming year to identify opportunities for rulemaking that provide additional structure and certainty to the process.

f. Require that DEQ adhere to all document review deadlines throughout a site's cleanup process.

DEQ Response: DEQ concurs with this recommendation and strives to provide timely review on all documents within the limit of its resources. The pace of DEQ reviews has increased as the number of project officers has increased, as retention of project officers has improved and as project officers have become more experienced. DEQ is also utilizing databases more effectively to stay on track with document reviews.

g. Resolve moving target cleanup standards by statutorily directing and authorizing DEQ to establish appropriate cleanup standards that will not change following the selection of a remedy.

DEQ Response: DEQ is aware of very few situations in which there has been a moving cleanup target. In the case of the Milltown Reservoir Sediments Operable Unit, the arsenic standard changed. This change in standards was implemented through public processes and the proposed plan and record of decision both recognized the pending change and required the PLP to plan up front for compliance with the 2006 standard so that there would not be a "moving target" problem.

At the BN Livingston site, the methodology for dealing with soil contaminants and related indoor vapors evolved over the course of the project. When BNSF requested to use the new methodology, the request was approved. At this same site, BNSF wanted to change a cleanup standard (vinyl chloride standards had become less protective) and DEQ did not agree to the change.

Not re-evaluating cleanup standards could mean that DEQ determines a site can be used for residential purposes because the property meets the cleanup level (e.g., for dioxin) but later science methodologies develop that indicate the selected cleanup level is not protective of residential use. This could result in people, including children, living on a "remediated" site that may be exposed to contamination that affects their health. DEQ must have the ability to address this situation, even if it arises after the selection of a remedy.

6. Ongoing Program Review and Evaluation

a. The EQC should request a legislative performance audit of the CECRA program. The performance audit should focus on:
(i) identifying and removing bottlenecks within DEQ that are adding years and exhausting funding resources provided for the cleanup process; and

(ii) assessing and updating the CECRA computer data base to expedite all aspects of the cleanup process.

DEQ Response: DEQ concurs with this request.

b. The EQC or the DEQ should establish an Environmental Cleanup Work Group to re-examine program effectiveness, activities, and priorities. The EQC should work with the DEQ to establish priorities and goals for the work group. The work group should be comprised of members representing a cross section of stakeholders.

DEQ Response: DEQ would support working with Legislative Performance Auditors and stakeholders to examine program effectiveness, activities and priorities.

d. The EQC should continue to work with the DEQ to develop specific legislative changes in addition to any legislative changes envisioned in these recommendations.

DEQ Response: DEQ appreciates EQC's commitment to facilitate legislative changes that increase program effectiveness. Suggestions have been provided above.

Appendix B
VCRA Registry

VOLUNTARY CLEANUP AND REDEVELOPMENT ACT (VCRA) REGISTRY
February 14, 2006

Site	City	County	CECRA Rank	VCRA Status
Red Rocks Lakes National Wildlife Refuge	Lakeview	Beaverhead	M	V
Abandoned Railroad Embankment – West	Great Falls	Cascade	L	C
Anaconda Mineral Company	Great Falls	Cascade	H	I
Anaconda Mineral Company – West Bank Trail*	Great Falls	Cascade	H	I
Energy West Gas Manufacturing Plant*	Great Falls	Cascade	M	U
Brewery Flats Lewistown Facility	Lewistown	Fergus	V	E
Continental Oil Refinery, Lewistown	Lewistown	Fergus	M	I
Burlington Northern Fueling Facility, Essex	Essex	Flathead	M	I
Kalispell Air Force Station	Lakeside	Flathead	M	I
CMC Asbestos Bozeman	Bozeman	Gallatin	M	P
Diamond P Ranch	West Yellowstone	Gallatin	V	S
Jet Fuel Refinery	Mosby	Garfield	H	I
Former L-P Mill Site	Philipsburg	Granite	D	C
Corbin Flats	Jefferson City	Jefferson	H	
Lower Corbin Flats Area*			H	O
Upper Corbin Flats Area*			H	O
Joslyn Street Tailings	Helena	Lewis & Clark	H	S
Montana Department of Transportation Shop	Helena	Lewis & Clark	H	I
Montana Power Company Manufactured Gas Plant*	Helena	Lewis & Clark	H	C
Upper Blackfoot Mining Complex*	Lincoln	Lewis & Clark	H	V
L&R Trucking	Libby	Lincoln	D	C
Valley Garden Vat	Ennis	Madison	L	S
Precious Metals Plating Facility	Bonner	Missoula	D	C
AJ's Laundry and Linen	Missoula	Missoula	N	P
Engine Rebuilders	Missoula	Missoula	D	C
Hart Oil Refinery	Missoula	Missoula	H	I
Missoula Sawmill	Missoula	Missoula	M	S
Milwaukee Roundhouse	Deer Lodge	Powell	H	S
Cominco Phosphate Mine Complex	Garrison	Powell	V	
Brock Creek Timber Treat Area			V	C
Beck Ranch			V	N
Anderson Mine Timber Shed			V	P
Warm Springs Timber Treatment Facility			V	E
Rocky Mountain Laboratory – Hamilton	Hamilton	Ravalli	D	C
Burlington Northern Fueling Facility, Butte	Butte	Silver Bow	M	I
Butte Manufactured Gas Plant*	Butte	Silver Bow	H	P
Stauffer Chemical Company	Ramsay	Silver Bow	R	R
Petroleum Refining Company	Shelby	Toole	L	I
Texaco – Sunburst Works Refinery*	Sunburst	Toole	M	O
Burlington Northern Fueling Facility, Glasgow	Glasgow	Valley	D	C
Billings Grain Terminal	Billings	Yellowstone	D	C
Burlington Northern Fueling Facility Jones Junction	Huntley	Yellowstone	D	C

Site	City	County	CECRA Rank	VCRA Status
Montana Radiator Works	Billings	Yellowstone	D	C
Pacific Hide & Fur – Billings 4th Ave.*	Billings	Yellowstone	M	P

* = the Voluntary Cleanup Plan (VCP) addresses only a portion of the facility
CECRA = Comprehensive Environmental Cleanup and Responsibility Act

CECRA Ranking Codes:
H = High priority
M = Medium priority
L = Low priority
N = No further action
D = Delisted
R = Referred to another program
O = Operation and maintenance
V = VCRA facility, not on the CECRA Priority List

VCRA Status Codes:
C = Closed
I = Incomplete VCP submitted
O = Operation and maintenance
P = Pending closure or operation and maintenance
R = Referred to another program
S = Conducting site characterization (intent expressed to submit a VCP)
U = Cleanup underway
E = VCP under review by DEQ or public
A = VCP approved
V = VCP Void

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30 June 2006

Mr. Todd Everts
Legislative Environmental Policy Office
State Capitol Room 171
PO Box 201704
Helena MT 59620

Subject: Comments on Draft Report "Improving the State Superfund Process" Issued Pursuant to House Joint Resolution 34

Dear Mr. Everts:

Kennedy/Jenks Consultants is pleased to have the opportunity to provide the following comments on the subject draft document:

GENERAL COMMENTS

1) The term "facility," as used under CECRA, should be defined somewhere in the report. This will clarify why some of the facilities described are much larger than the potential liable party's (PLP's) property.

2) As an additional recommendation in Chapter 7, perhaps under "Site Cleanup Process": "DEQ should examine the scope of its review and oversight with the objective of limiting this scope to regulatory oversight and placing the burden for technical performance on the PRPs. DEQ may consider the use of a legal disclaimer to accomplish this."

SPECIFIC COMMENTS

1) Page 35, Paragraph 1: The sentence "In 1989, MDHES began sampling indoor air...to determine the extent of air-borne contamination to nearby populations" should read "In 1989, MDHES began sampling indoor air...to evaluate whether air-borne contamination that could affect nearby populations was present." DEQ and the PLP are still evaluating whether chemicals in indoor air are attributable to the Livingston facility.

2) Page 36, Paragraph 5: On 30 May 2002, DEQ issued the "Draft Statement of Work for Remedial Design/Remedial Action, BNSF Livingston Shop Complex, Park County, Montana" (Draft SOW) to BNSF for comment. Seven days later, on 6 June 2002, BNSF and DEQ met to discuss the Draft SOW and agreed in principle on modifications to address comments. No further input regarding the Draft SOW was solicited from or provided by BNSF until September 2004 when DEQ issued a new Draft SOW to BNSF. These facts are important to the timeline outlined in the report and some documentation of this delay would be appropriate in the "Site Description and History" section.

3) Page 37, Paragraph 3: The sample results for the soil gas sampling have been provided to DEQ. For accuracy, "[t]he sample results are currently pending" should be replaced with "[t]he sample results are currently under review by DEQ."

4) Page 37, Paragraph 4: Sampling is currently performed on a semiannual basis. For accuracy "[q]uarterly groundwater sampling..." should be replaced with "[s]emiannual groundwater sampling..."

5) Page 39, Paragraph 1: Since the PRP would not concur with the assertion that "[t]he PRP has not always incorporated DEQ comments within the work products" this sentence should carry a qualifier such as "DEQ asserts that the PRP..."

6) Page 39, Paragraph 3, Line 9: The word "site" should be changed to "sight."

7) Page 39, Paragraph 4: "and the PRPs have..." should be modified to "and the PRP's environmental consultants have..."

8) Page 40, Paragraph 3, Last Line: The statement "[t]he PRP has been recalcitrant..." is one party's perspective and should be attributed in a manner such as "According to the Citizen Group, the PRP has...."

9) Page 67, Cost of Cleanup: We suggest the following modified language: "Oregon has garnered a reputation for effectively moving sites through its regulatory process to cleanup and closure. Oregon law emphasizes risk based site closure and describes the cost/benefit basis for determination of the cost effectiveness of a remedy (reference: Oregon Revised Statutes 465.315 at http://www.leg.state.or.us/ors/). A cost/benefit assessment is implied in the cost-effective requirement for remedial actions under CECRA [MCA 77-10-721(2)(c)(v)] – look to Oregon and Washington Laws as examples to see if this is workable and if this type of amendment to Montana statutes or regulations is appropriate."

10) Page 91, Item 5.b.: The first sentence is confusing. Perhaps "and" should read "in"? For the last sentence, we suggest: "This may include more standardized and consistent use of risk-based calculations."

11) Page 91, Item 5.e.: Clean-up standards should be developed on a site-specific basis to allow for consideration of the variables associated with differing environmental settings. We suggest the following modification: "The Legislature should clarify the basis for the development of cleanup goals and standards, including the meaning of "cost-effective" under CECRA [MCA 77-10-721(2)(c)(v)], and should authorize DEQ to develop conforming guidance on the development of cleanup standards, criteria, and timelines."

12) Page 91, Item 5.e.: As stated in comment 11 above, clean-up standards should be developed on a site-specific basis. We suggest the following modification: "Resolve moving target clean-up standards by statutorily directing and authorizing DEQ to establish the basis for development of appropriate clean-up standards that, once approved, will not change following the selection of a remedy."

Thank you for affording us the opportunity to provide this input into the evaluation of ways to improve the state Superfund process. If you have any questions regarding our comments or would like clarifications, please do not hesitate to contact the undersigned at (253) 874-0555.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

John E. Norris
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Date: June 30, 2006
To: Todd Everts, Environmental Quality Council (EQC)
From: Steve Ackerlund, Portage Environmental, Inc. (Portage)
Subject: Comments regarding "Communications" contained in the Draft Recommendations section of "Improving the State Superfund Process," Draft EQC Study Report, House Joint Resolution 34, September, 2006

Mr. Everts:

INTRODUCTION

This letter focuses on the "Communications" section of the EQC Agency Oversight Subcommittee's draft recommendations (please see Section 7, bullet 3 of "Improving the State Superfund Process") because my professional experiences lead me to believe that communication challenges are at the core of the controversy surrounding many of the most difficult environmental cleanup projects.[1] These comments can be recognized as adding detail to communication related information previously submitted by Dr. Robin Saha and I to the EQC Agency Oversight Subcommittee and which comprises Section 6 of "Improving the State Superfund Process".

One observation from the work I supported with Dr. Saha was that public concern and controversy seem greatest for projects that directly affect the general public, either through real or perceived ongoing exposure to contaminants, threats to private property rights, or impacts on property values. Environmental projects seem to become more complex as more directly impacted project stakeholders become involved, if the involved stakeholders hold more divergent worldviews than those represented by environmental agencies and/or industry, and as the projects become more technically complex. An effective communication program is of the utmost importance in effectively addressing such projects if the projects are to satisfy of all involved.

I begin my comments with an evaluation of the draft recommendations on Communications (Section 7 of "Improving the State Superfund Process", p. 90) because the evaluation provides insight into the difficult to "see" issues that underlie the communication challenges already recognized by the Montana Legislature and the EQC Agency Oversight Committee. I close with a brief "big picture" discussion of how we, as a state and nation, came to inherent the present communication problems, and then

[1] I am an environmental chemist and toxicologist with approximately 20 years experience in the environmental field, particularly on hazardous waste cleanup projects. The pervasiveness of the communication problem at hazardous waste cleanup sites has led me to take an intensive interest in the topic and enroll in a self-designed Individualized Interdisciplinary Ph.D. program in Risk Communication and Environmental Conflict Resolution at the University of Montana. This is a topic area I have thought about a lot in the past 2 or 3 years.

suggest additional recommendations for considerations by the EQC Agency Oversight Committee.

CONSTRUCTIVE EVALUATION OF THE DRAFT RECOMMENDATIONS

As I noted in the Rimini Case Study (see Schedule and Communication Challenges at the Upper Tenmile Creek Superfund site, p. 6-4, submitted separately to the EQC), most involved in Superfund type cleanups struggle to identify effective solutions to the communication challenges. This constructive critique recognizes the challenges faced by the EQC in addressing this topic, and congratulates the committee for identifying "Communications" as one of the six major themes within the Draft Recommendations.

Action Item Checklist: Efficiency vs. Effectiveness when Working with Divergent Perspectives

> Draft Recommendation: "The DEQ should convene "action checklist" meetings with Potentially Responsible Parties (PRPs; with all decision-makers attending) to resolve all pending issues."

Holding effective project meetings to advance environmental cleanup projects is certainty a major challenge I have experienced in my career. Coming to consensus on what needs to be done and developing an action item checklist to track progress is an often attempted approach on many projects, in my experience. Requiring this approach on all projects may be problematic. In my experience, the more disparate the viewpoints of the stakeholders, the more difficult it is to take a "checklist" approach to meetings.

The "action checklist" approach works well with a like-minded group. Within a business for example, a trusted individual is assigned an area of responsibility by a boss. A brief and focused checklist communication approach works well for these individuals because they are self-selected to think alike, and the boss places a degree of trust in the individual who is tasked to achieve a commonly desired goal. If the trusted individual repeatedly does not achieve the desired outcomes, the boss can turn to another individual.

Environmental projects generally share none of the characteristics of an effective like-minded group such as business. The parties do not choose to work together, there are generally divergent expectations for what constitutes a "healthy environment" (terminology from MCA 75-1-103), and there is often little established trust between the parties. This lack of trust requires that much more detail and explanation be communicated than can be captured in a typical checklist – rather detailed work plans are needed that are often extensively negotiated. Also, large differences in worldviews create substantial communication challenges. Many, many times, I have been involved in projects where the resolution of meeting notes documenting what was discussed can take months to resolve, completely detracting from the core project work needs.

For contentious projects, I often (but not always) recommend to my clients (both industry and government) that they have frequent meetings with the regulating agency (and other stakeholders) but not expect too much from verbal communication. The goal of the

meetings is to generate personal rapport and trust, not to get things done. It's the written documents that provide the comprehensive "action" plans needed to support informed decision-making. This approach is consistent with the principles espoused by Stephen Covey in "Seven Habits of Highly Successful People", which I paraphrase from memory as "be efficient with things, be effective with people." Often, I will make the case for as many meetings as possible, and as few written deliverables as possible over the life of a project. Each written deliverable should be comprehensive and thorough, and fit within a larger project framework. Meeting summaries, including checklists, may be used but are sometimes also avoided.

What is often missing on many projects is a "Framework Plan" that sets forth a sequence of steps with decision criteria and timelines that are appropriate for the project and which are agreed to by all involved parties. Often left in this vacuum is a rather general and implicit recognition of the generalized cleanup process (i.e. the CECRA process described only in DEQ guidance rather than law or regulation, see http://www.deq.state.mt.us/StateSuperfund/PDFs/statesuperfundchart.pdf). This generalized understanding lacks specificity regarding the site-specific project needs, such as the schedules and resources needed to complete the project. It also lacks specificity regarding when critical decisions need to be made and what information is needed. Importantly, not having a project specific Framework Plan eliminates the public's opportunity to have effective, early input on the project (the need for effective, early public input on the project is addressed below under Citizens Guide).

Paralysis by Analysis: Technical vs. Social Approaches for Solving the Problem

> Draft Recommendation: "The DEQ should improve channels of communication with the PRPs and the public and should take steps to avoid systemic problems such as "paralysis by analysis".

Here again, the EQC Agency Oversight Subcommittee has identified a pervasive problem, but stopped short of the very difficult task of identifying specific steps for improving communication and thereby resolving this problem. As the subcommittee implies, "Paralysis by Analysis" is a symptom of an underlying communication problem.

I am unaware of any academic assessment describing the roots of this problem. Some of the problem is no doubt rooted in the often difficult task of identifying what truly needs to be done, even among like-minded, experienced technical professionals. It's almost always possible to look back critically at a project and identify unneeded tasks. Beyond this however, my own understanding (with a bit of conjecture) is that Paralysis by Analysis is exacerbated by a project approach that focuses on technical aspects and ignores the socially-rooted sources of conflict. There is, in my experience, a pervasive, implicit belief among technically minded people (and hope among regulators facing contentious decisions) that an optimal remedy will materialize from a technically rigorous study. A stark inflection point on the graph of cost vs. benefit is desired where the cost per life potentially saved jumps for the next option beyond the recommended option (it is assumed that all stakeholders will agree that the inflection point demarcates

the reasonable expenditure). Within Superfund and CECRA, this hope becomes expressed in the feasibility study document which generally contains a matrix of scores for remedial options vs. evaluation criteria (e.g. risk reduction, cost, short-term effectiveness, etc.). Generally, the scores from this process are summed for each remedial option, and the lowest score is put forth as the recommended best option. This form of assessment suffers in two important ways.

First, this assessment is a gross simplification of a mathematically sophisticated decision tool called Multi-Criteria Decision Analysis (MCDA). MCDA addresses the problem of optimal decision-making when there are many criteria to consider, varying weights of preference among the criteria, and when there are varying preferences between individuals. Few environmental professionals even know that this decision tool exists, much less have awareness of the subjective value statements that become hidden within the "technical" assessment and the matrix of scores for remedial options vs. evaluation criteria.

Secondly, the feasibility study occurs at the end of an often multi-year investigation process. The difficult and subjective process of discussing what should be done to "clean up" a contaminated site is often avoided until the last possible moment in a project. By precluding any discussion of the likely remedy until the feasibility study, a greater need is placed on obtaining a "complete" understanding of the contamination problem, i.e. lots of data analysis. Going back to the 1980's and early 1990's, when few large, controversial contamination projects had achieved completion, the study phases of the projects were long and detailed. Now however, I believe we can learn from a large history of completed projects nationally about what the likely outcomes will be for a particular type of contamination. Earlier discussion of likely remedies can simplify the data collection needs and lead to much more focused investigations. Wyoming's Voluntary Cleanup Act (http://legisweb.state.wy.us/statutes/statutes.aspx and http://deq.state.wy.us/volremedi/index.asp) allows focus on a preferred remedy that can be expressed early in the life of the project, and I have experienced success in working under this program with the investigation of the large and complex Sinclair Oil Refinery cleanup project in Sinclair, Wyoming.

In summary, the legislature may address one of the symptoms of inadequate communication, Paralysis by Analysis, by establishing a process that encourages identification of likely remedies earlier in the CECRA process, and that encourages the parties to collaborate in defining, within a Framework Plan, the steps necessary to achieve the presumed remedy.

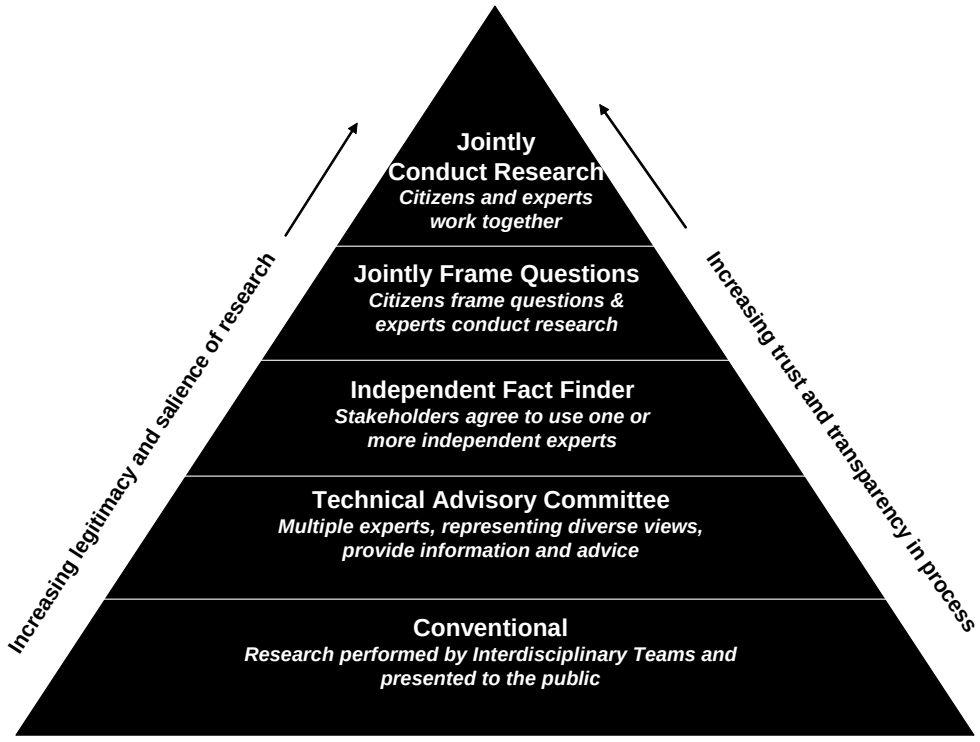
Citizen's Guide: Telling the Public vs. Involving the Public

> Draft Recommendation: "The DEQ or EQC should develop a citizen's guide to CECRA to assist citizens and communities in understanding the CECRA process."

A Citizen's Guide can help citizens initially learn about the CECRA process. However, in many cases the conflict, from the public's perspective, centers on the inability to meaningfully effect the process! This is certainly the case on the Upper Tenmile (Rimini) project, where I serve as the Technical Assistance Grant (TAG) contractor for the community. To effectively "communicate" with the public, it is necessary to refrain from "telling the public what needs to happen" and to more effectively involve the public in a more flexible, inclusive, involved and informative process for determining what needs to be done. This approach is generally consistent with Recommendation 3 of the "Final Report" by the Superfund Subcommittee of the National Advisory Council for Environmental Policy and Technology (April 12, 2004; p. 34), which states: "EPA should reach out to potentially affected communities, local governments, and potentially responsible parties earlier in the Superfund site assessment process to share and solicit information about sites being considered for NPL listing."

No two projects need to involve the same public involvement process. To help elucidate the range of possible options, Dr. Matt McKinney, Director of the Public Policy Research Institute at the University of Montana, has developed a graphic showing a continuum of different levels of public involvement.

Pyramid of Strategies for Joint Fact Finding



The theory and practice of Joint Fact Finding (suggested by the top two tiers in the above figure) indicate that multi-stakeholder projects involving competing values and beliefs can best be addressed by a process that encourages collaborative rather than competitive interaction. Rather than having the DEQ ramp up their technical expertise to compete

against the PRP's selected experts (as is encouraged by certain EQC subcommittee recommendations), perhaps an alternative process of managing technical input can be explored that is less expensive and more likely to mediate multiple stakeholder differences. A pilot program that allows PRPs to voluntarily participate in Joint Fact Finding is the kind of creative, out-of-the-box approach that holds promise for radically changing the seemingly irresolvable schedule, budget and public satisfaction problems that currently plague CECRA (and other Superfund related programs nationally).

CLOSING THOUGHTS AND RECOMMENDATIONS FOR IMPROVING CECRA

The manner in which people perceive their relationship to the environment is one of the important characteristics that can help define a person's identity. How we, as a state, choose to respond to environmental contamination, is both a technical challenge and a social challenge that can involve deeply held personal values and beliefs. Yet, the present CECRA process mimics the EPA's Superfund process in taking largely a technological approach to solving the problem. This present technological approach can be understood within a broader context of the history of social thought in the United States. The 20th century generally involved the rise of large, technically-oriented resource agencies to developed optimized solutions to complex environmental problems. Without disregard to the many merits of agencies like the EPA or DEQ, this technology-oriented approach to addressing environmental problems has not effectively achieved the broad public acceptance or trust in the expert-generated solutions that was perhaps expected. Montana, like the rest of the country, is struggling to find more effective ways of generating broad public acceptance of solutions to environmental problems.

Within the academic field of Environmental Conflict Resolution, the state-of-the art theory is to include all affected stakeholders in a process that is tailored to meet project-specific needs. The process must be trusted by all involved, and all involved must be able to meaningfully influence the process. Doing so does not necessarily require that DEQ abrogate any decision-making authority (although for brevity's sake, I choose not to explain why herein). To achieve a trusted and inclusive communication program that has a real chance of gaining broad public support for the more challenging CECRA projects, the recommendations listed below are offered for consideration to the EQC Agency Oversight Subcommittee. While the four recommendations are presented as separate options for consideration, they may also be understood as an integrated package of options that would operate synergistically to reduce conflict. The recommendations are:

a. The legislature should explicitly allow for process flexibility within the CECRA program and encourage the use of a "Framework Plan" type approach for larger, more complex projects. The Framework Plan would identify the site-specific steps to be taken to move from initial site assessment to remedy selection. Key deliverables (work plans and reports), and the related key decisions to be made with each deliverable, would be identified, as would the resources and schedules necessary to achieve the deliverables.

b. The legislature should allow for the option to simplify the process of remedy selection within CECRA. DEQ, PRPs and other stakeholders should be encouraged to identify likely remedies earlier in the investigation process, and DEQ should be encouraged to reduce the need for PRPs to prepare reports that evaluate multiple remedy alternatives.

c. The legislature should expand opportunities for public participation to allow earlier and more meaningful participation in the process (such as in the scoping phase of the aforementioned Framework Plan). Public hearings and public comment on draft technical documents should be identified by the legislature as the lowest acceptable form of public involvement, not a prescriptive standard to be applied for all projects.

d. Recognizing that major performance improvements will not happen through modest program adjustments, the legislature should provide pilot project funds to support bold new ways of managing environmental projects that directly address the social issues underlying the conflicts. For example, a pilot program for applying Joint Fact Finding at one or more project sites that allows for voluntary participation by PRPs could be implemented.