

THE ADVISOR

A Publication of the Rocky Flats Citizens Advisory Board

Summer 1995

DOE Studies Disposal Options for Plutonium

Now that the arms race between the two Cold War superpowers has been replaced with a cautious peace, the huge nuclear stockpiles that were a result of this contest are being reduced and surplused through a series of arms control treaties. Both the United States and Russia face the difficult challenge of determining how to handle tons of nuclear material left over from years of incessant arms production.

Locally, after 40 years of producing triggers for nuclear bombs, Rocky Flats is now left with an inventory of approximately 14 tons of plutonium, most of which has been declared surplus by President Clinton. Last year, a Department of Energy (DOE) study of plutonium storage conditions found two Rocky Flats buildings to be the most dangerous in the nuclear weapons complex. Although the site is preparing corrective actions to these vulnerabilities, there is a great deal of concern from the State of Colorado and many other sources regarding such a large stockpile of plutonium being stored indefinitely so near a very large metropolitan population. The question facing the community around Rocky Flats now is - how long will the plutonium stay at Rocky Flats?

In order to provide an answer to this question and similar concerns around the former weapons complex, DOE is currently preparing an Programmatic Environmental Impact Statement (PEIS) that will determine preferred alternatives for both long-term storage and ultimate disposition of plutonium. This PEIS will evaluate storage alternatives for those materials still deemed necessary for national defense and disposition alternatives for weapons-usable plutonium that has been declared surplus by the President, such as the plutonium currently stored at Rocky Flats.

The storage and disposition alternatives will be evaluated against several criteria relating to safety and health, as well as safeguards against theft or diversion. The United States government is very concerned about the national and international ramifications of the proliferation of nuclear materials and

(continued on page 5)



Plutonium "button" at Rocky Flats.

Estimated Cleanup Costs: \$230 Billion

In its appropriation to the Department of Energy for Fiscal Year '94, Congress inserted language requiring DOE to prepare a report outlining the life-cycle costs and the time it would take to clean up the weapons complex sites across the country. DOE recently released this report - officially titled *Estimating the Cold War, The 1995 Baseline Environmental Management Report* or BEMR (pronounced bee-mer) as it is often called.

To compile the report, DOE asked each of the sites to supply information and estimates based on current work and agreements in place with regulators. Using this information, DOE estimates the cleanup will take 75 years and cost \$230 billion. Cost estimates include environmental restoration, nuclear materials stabilization, waste treatment, storage and

(continued on page 5)

Highlights Inside:

Kaiser-Hill Will Get Paid for Results	2	Savannah River Advisory Board	6
CAB Work Plan Update	3	New Citizens Advisory Board Members	7
Rocky Flats Budget: Where Does it All Go?	4	Public Meeting Calendar	8

ADMIN RECORD

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1/8

There's a New Contractor in Town

Kaiser-Hill Aims for Rapid Results

Many people are predicting that a new era has begun in the cleanup of Rocky Flats. In addition to severe budget cutbacks, a new contractor has taken the helm and is working under a new type of contract with the federal government.

Kaiser-Hill, a joint venture between ICF Kaiser and CH2M Hill, took over on July 1 as the new Integrating Management Contractor (IMC) at Rocky Flats. As opposed to the prior Management and Operation contracts, Kaiser-Hill manages and integrates the work at the site to optimize the achievement of strategic goals and performance measures, while it employs a team of specialized subcontractors - such as Morrison Knudsen and Westinghouse - to do the actual work at the site.

Another innovative feature of the IMC contract is that compensation for Kaiser-Hill is based almost entirely on the completion of a set of performance measures. These performance measures were developed by Kaiser-Hill based on Rocky Flats Strategic Plan and integration of community and Department of Energy (DOE) goals.

PERFORMANCE MEASURES

There are two classes of performance measures associated with each activity. "Standard" measures are those which Kaiser-Hill feels comfortable about being able to achieve, while "stretch" measures



George O'Brien, President of Kaiser-Hill

"Cleanup and conversion of Rocky Flats stands as perhaps the most imposing technical challenge on the face of the earth."

George O'Brien
President, Kaiser-Hill

are anticipated to require significantly more effort to reach, but bring with them a higher payoff to the company. These measures will be modified annually by revisiting the strategic plan and the budget situation.

Under this new system, if Kaiser-Hill does not accomplish a performance measure, it does not get paid for that activity. For example, Kaiser-Hill has agreed that it will complete stabilization and consolidation of plutonium and shrink the high security area by the end of 2000. Based on their contract, Kaiser-Hill will only receive payment for that task if they meet this milestone.

LOOKING AHEAD

George O'Brien, President of Kaiser-Hill states, "Building a foundation of trust and understanding among our employees, regulators and public is paramount to Kaiser-Hill's success at Rocky Flats. We will surely benefit from the cooperation and input of stakeholders as we take on the challenges ahead and determine the best solutions together."

Having just completed a difficult restructuring effort at the site - reducing the current workforce by 1,700 employees as required by DOE - it is clear that the Kaiser-Hill team has quite a challenge ahead. They must demonstrate their efficiency and innovative management capabilities in the face of Congress' demand for more achievement at a lower cost.

KAISER-HILL PERFORMANCE MEASURE EXAMPLES:

BY OCTOBER 1995

- Drain low-level tanks in Bldg. 771 (plutonium and uranium solutions)
- Remediate one of the highest risk hazardous substance sites
- Remediate three radioactive "hot spots"

BY JULY 1996

- Ship all Highly Enriched Uranium off-site
- Process 80% of Bldg. 771 high-level tanks
- Increase off-site shipments of low level radioactive waste by 100% over 1995 shipment levels

CAB Work Plan Update: First Things First

Is on-site waste disposal acceptable at Rocky Flats? If yes, what types of wastes are acceptable and in what locations? If the government does not have the money or the technology to return the site back to green fields, what are acceptable cleanup levels? If the plutonium stays on-site for the next 10-50 years, should it be stored in one building or in several buildings? Should it be shipped off-site for disposal?

The Rocky Flats Citizens Advisory (CAB) will address these questions and more within the next year. CAB has completed Phase I of its work plan, two months ahead of schedule. Since December, the Board has studied and analyzed the Department of Energy's (DOE) priorities and plans for cleanup and risk reduction activities at Rocky Flats. These activities were then categorized by the CAB on a "what decisions need to be made first" basis.

The Board came to an agreement that the broad policy, or "big picture," decisions must be made first. These are the fundamental choices that need to be made about handling plutonium, waste and cleanup which will in turn drive the decisions on specific projects and other activities. The Board identified four "big picture" areas for which it will provide recommendations to DOE (SEE BOX ABOVE RIGHT).

Once the Board agreed on the four priority issues, it assigned each of these issues to a specific committee and requested each committee to develop an approach for how it would develop a recommendation. At its June retreat, the Board reviewed these plans and provided feedback. The committees are currently in the process of collecting information, receiving presentations from site personnel, and forming smaller working groups. In addition to these four primary issues, the committees will continue to work on other projects as time allows. Some of these other activities are as follows:

- Develop position on Rocky Flats Cleanup Agreement
- Develop criteria and scope for mortgage reduction (reducing operations, surveillance and maintenance costs)
- Investigate and define storage/disposal standards for plutonium residues
- Review worker health and safety studies
- Track cleanup and produce semiannual tracking report
- Develop tracking program for plutonium vulnerability assessment-Corrective Action Plan milestones

One of the goals that has been identified by each committee is to incorporate substantial community input into the development of the Board's recommendations. To accomplish this, the committees will be hosting workshops, panel discussions and public meetings to discuss and gain input from the community on these very important issues.

CAB 1995-96 FOCUS AREAS

- Develop positions on Rocky Flats radioactive waste storage and disposal
- Develop cleanup criteria for site
- Endorse/modify Future Site Use Working Group recommendations
- Develop position on interim storage and long-term disposition of plutonium

CURRENT COMMITTEE ACTIVITIES

The Plutonium & Special Nuclear Materials Committee, which meets on the third Tuesday of each month, has assembled two subcommittees to accomplish its work plan activities. One subcommittee will develop a position paper and associated recommendation(s) concerning the big picture issue of plutonium disposition. This subcommittee is looking at plutonium consolidation and the longer term issues including storage criteria and treatments. The second subcommittee has been formed to look at corrective actions associated with plutonium vulnerabilities and stabilization activities. These tracking activities are ongoing and will occur simultaneously with the other work plan efforts.

The Site Wide Issues Committee, which meets on the first Monday after the first Thursday of each month, is tackling the waste disposal policy issue. This is the most pressing issue because cleanup cannot begin until Rocky Flats identifies a location to store or dispose of the waste that will be generated from cleanup. This committee expects to send a recommendation to the full Board in October.

The Environmental/Waste Management Committee, which meets on the third Thursday of each month, will define cleanup criteria for the site. The committee has indicated that it will deliver a position paper by June of next year. Interim milestones include having research finished by October '95, a draft available for committee review by February '96, a draft ready for CAB review by April '96, and a finished product sent to DOE by June '96. The committee will also continue to track the progress of liquid stabilization activities as it has done for the past year.

The Alternative Use Planning Committee, which meets on the fourth Tuesday of the month, has completed its future land use recommendation and will be working on other issues such as mortgage reduction.

Rocky Flats 1995 Spending

Did you
ever
wonder
how
Rocky
Flats
spends
hundreds
of
millions
of
dollars
each
year?

BUDGET CATEGORY	DESCRIPTION	DOLLARS (in millions)
WASTE MANAGEMENT		228
Waste Management Operations	regulatory compliance, management costs	48
Solid Waste Operations	storage costs, facility maintenance	59
Liquid Waste Operations	treatment, facility maintenance	28
Waste Characterization	sampling and analysis	24
Actinide Solution Stabilization	plutonium solutions handling	44
Technology Development	equipment, testing	9
Residue Management	permitting, elimination planning, stabilization	16
NUCLEAR MATERIALS MANAGEMENT		156
SNM Program Management	consolidation, shipping, stabilization	88
Safeguards and Security	guard services, inventory control	69
ENVIRONMENTAL RESTORATION		179
Remedial Actions	includes all the operable units	98
Decontamination and Decomm.	pilot projects (recently discontinued)	6
Program Management Support	RFCA negotiations, management costs	16
Treatment, Storage and Disposal	covers ER contribution to waste activities	16
Payments to External Groups	off-site water projects	42
FACILITY CONVERSION		39
Economic Development	NCPP support	9
Work Force Restructuring	payments and benefits for former workers	15
Support Activities	payments to National Labs, other groups	8
Facility Deactivation	non-plutonium buildings	7
SITE SUPPORT OPERATIONS		174
Support Building Operations	phone, analytical labs, computers, fire protection	50
Environmental Monitoring	permit management, sampling	27
Health and Safety	medical services, radiation protection	45
Hazardous Non-nuclear Materials	asbestos, beryllium, chemicals management	5
Surplus Building Maintenance	Bldgs. 440, 883, 444, 865	10
Defense Program Support	non-nuclear shutdown	23
Reconfiguration Support	equipment transfer to Kansas City and elsewhere	12
Program Direction	payments and grants	2
ADMINISTRATIVE SUPPORT		16
Direct Recovery	phone, computers, media arts, procurement	4
Site Landlord Support	DOE/RFPO, utilities, cafeteria, vehicles, etc.	*(8)
General Management	communications, human resources, planning	11
Benefits	employee benefits and payroll taxes	14
Organizational Overhead	office of the manager and line organizations	*(5)
TOTAL FOR THE SITE		793

* costs are recovered from other programs, resulting in a line-item surplus

(Figures based on 5/8/95 Rocky Flats FY95 Cost Performance Report. We have rounded to nearest million)

Plutonium Disposition Planning

(continued from Page 1)

plans to set an example for Russia by identifying storage and disposition alternatives that will make these materials inaccessible and substantially more difficult to reuse in nuclear weapons.

The three plutonium storage options that will be analyzed in the PEIS are the no action alternative, upgrading interim storage facilities, and consolidating the inventory at a new facility. Rocky Flats is not being considered as a long-term storage site because DOE expects to remove the plutonium from Rocky Flats to some other location for interim storage prior to ultimate disposition.

There are four options being considered for ultimate disposition of plutonium. The first alternative is no action. Under this scenario, the plutonium would remain indefinitely in long-term storage. The second option is to use the plutonium as fuel in domestic or foreign reactors. A portion of the plutonium would be consumed, and the rest would be embedded in highly radioactive spent fuel. The third alternative being considered by DOE is to immobilize the plutonium in a form suitable for disposal in a high-level waste repository. There are several methods by which to immobilize the plutonium, including vitrification (mixing it with glass). The final alternative is emplacing the plutonium in a deep borehole drilled

several kilometers below the water table into ancient, geologically stable rock formations.

DOE held public scoping meetings around the country last summer. A PEIS implementation plan was released this spring which presents the issues identified during the scoping process, indicates how they will be addressed in the PEIS and describes how the document will be prepared. A draft PEIS is scheduled to be released in November of 1995 and the final is due in the summer of 1996. Following publication of the final PEIS, DOE will select one or more alternatives for storage and disposition based on all the data and public input they have received. Beginning with the scoping hearings last summer and throughout the preparation of the document, the public has an opportunity to influence the crucial choices that will be made by DOE next year.

The State of Colorado, the Citizens Advisory Board and many other Rocky Flats stakeholders are awaiting DOE's decision about plutonium disposition. Only when this decision is made can plans begin for removal of the plutonium from the site. And only then can surrounding residents feel relief that a significant source of the danger posed by Rocky Flats will finally be out of their backyards.

Energy Department Cleanup Costs

(continued from Page 1)

disposal, program management and landlord costs. DOE believes most of the cleanup work can be accomplished in roughly 40 years, but there will be continuing work to see that waste is properly disposed of and monitored. An underlying assumption of the BEMR cost estimate is that DOE will be able to achieve a 20 percent productivity improvement in the next five years, and one percent per year thereafter for the life of the project. If this productivity target is not met, the cost could likely soar as high as \$350 billion.

The cost estimate for Rocky Flats is \$23 billion or roughly 10 percent of the

cost nationally. The two sites with higher cost estimates are the Hanford Site in Washington (21%) and the Savannah River Site in South Carolina (20%).

In its analysis, DOE looked at what the impacts of different land use, technology, funding, and waste management scenarios would have on the estimates. The biggest change in estimates occurs with varying the future land use scenario. If all sites are to be returned to "green fields," the costs would increase dramatically to around \$500 billion. The most restrictive land use case would require \$175 billion.

WOULD YOU LIKE TO KNOW MORE ABOUT ROCKY FLATS?

The Citizens Advisory Board is interested in finding out more about the concerns of the community so that these interests are incorporated into the recommendations we offer to the Department of Energy.

We also want to assist the community in becoming more informed about Rocky Flats issues. Our office hours are 8:30 a.m. - 4:30 p.m. Monday through Friday. Please call us at (303) 420-7855 if there is anything we can do to help you to learn about the issues, or if you would like to get more involved.

LETTERS TO THE EDITOR

The Advisor accepts and will print Letters to the Editor. Please send your letters to the address listed on page 7.

What's next? The BEMR will be an annual report. As DOE is able to better define the scope of its activities, hopefully it will be able to produce better estimates. The most important outcome of the BEMR will be its use as a tool in the national debate regarding the future of the Environmental Management program. As land use decisions are made and new technologies come to fruition, the BEMR can serve as a benchmark for where the cleanup program is today and the direction it will likely head in the future.

Site-Specific Advisory Boards

A R O U N D

THE DOE WEAPONS COMPLEX

This Issue: Savannah River Site Citizens Advisory Board

The Rocky Flats Citizens Advisory Board is one of nine Site-Specific Advisory Boards (SSABs) that have been formed at former nuclear weapons production sites. Other SSABs are in the planning stages. In each issue of The Advisor, we spotlight the activities of one of these boards.

The Savannah River Site (SRS) Citizens Advisory Board (CAB) recently recommended that the site take in used nuclear fuel rods from 41 countries. This recommendation allows for storage of the radioactive material at SRS for at least 10 years. The Board felt that reprocessing these fuel rods at SRS would fulfill a need for jobs in the area following thousands of layoffs at the site. There was also a minority amendment filed with the recommendation which cites safety concerns and alternative storage methods.

Before making this recommendation, the Board outlined screening and performance criteria for evaluating the alternatives for accepting foreign spent nuclear fuel. These criteria included supporting the nuclear non-proliferation policy of the United States, not increasing the health risks to the public, and establishing technical feasibility.

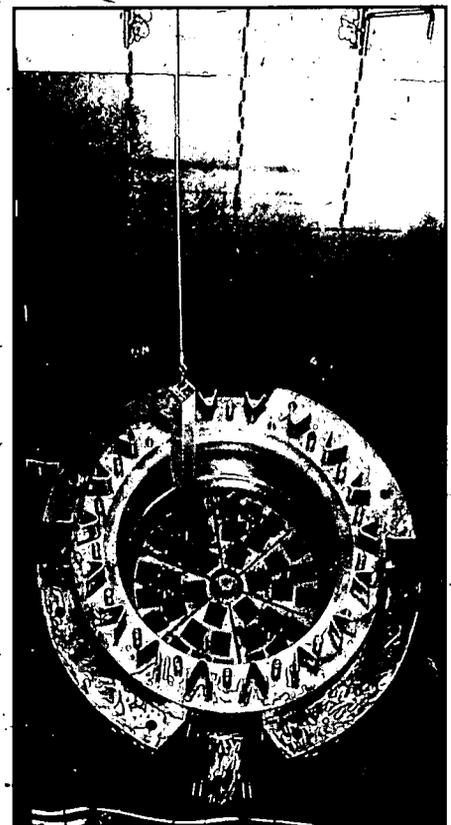
The Board has also developed two recommendations requesting that DOE seek independent peer and technical review of significant environmental documents and groundwater remediation technologies.

Currently the Board is working on several projects, such as a study of the health effects of tritium, and recommendations on the fissile-materials disposition Programmatic Environmental Impact Statement and future use of the SRS site.

The Board's three issue-based subcommittees are the Environmental Remediation & Waste Management Subcommittee, Nuclear Materials Management Subcommittee, and Risk Management and Future Use Subcommittee. These subcommittees focus primarily on health effects and risk.

The SRS CAB is comprised of 25 individuals from South Carolina and Georgia. Chosen by an independent panel of citizens from approximately 250 applicants, the Board members attempt to reflect the cultural diversity of the population affected by SRS.

The members - who serve two or three year terms - represent the business sector, academia, local government, environmental and special interest groups, and the general public. Two of the SRS CAB members specifically represent politically and economically disadvantaged persons.



Spent fuel rod (on cable) being lowered into underwater storage container.

CAB Welcomes New Board Members

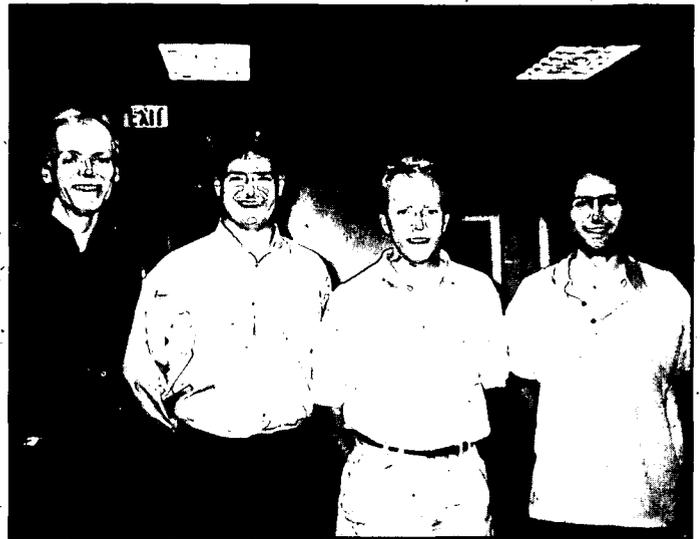
At its June meeting, CAB approved the appointment of five new Board members. We would like to take this opportunity to introduce them to you.

Tom Clark, a Denver resident, is an elementary and middle school teacher at the Denver Waldorf School, where he has taught for the past 10 years. When asked about his interest in serving on the Board, Tom answers, "The appearance of the [plutonium] vulnerability study in the newspaper headlines was a wake-up call for me. We must find new ways to remind the federal government that plutonium is not a local problem to be forgotten about, but now actually poses a far greater threat than ever before both nationally and worldwide."

Mike Freeman, of Westminster, describes the challenge of how to clean up Rocky Flats as "very dynamic, with emotions, technology, money and regulations attached to it." He is an applications engineer for an industrial ventilation company. He has a B.S. in chemical engineering from the University of Cincinnati and is currently pursuing a masters degree in environmental policy and management at the University of Denver.

Sasa Jovic is also a student working toward a masters degree in environmental policy and management at the University of Denver. He previously earned a masters in environmental engineering from the Colorado School of Mines, and both an M.S. and B.S. in geology from the University of Zagreb, in his native Croatia, where he worked as a geologist. Sasa sees his role on the Board as "an objective reporter of accurate facts related to existing issues at the site." Sasa lives in Denver.

Michael Keating is an optometrist in Fort Collins, where he also resides. His primary interests in Rocky Flats are on the



From left: New CAB members Tom Clark, Michael Keating, Mike Freeman and Tom Marshall. Not pictured: Sasa Jovic.

handling of nuclear waste and technology development. Michael considers himself an environmentally concerned Colorado resident and has closely followed the progress of various technologies. He will keep CAB up-to-date with current technologies and waste management solutions.

Tom Marshall has been an activist on Rocky Flats issues since moving to Boulder in 1991. Tom is the Coordinator for the Disarmament/Rocky Flats Program with the Rocky Mountain Peace Center, where he also works with the food co-op. Tom believes "if citizens had been involved in the decision-making process in a meaningful manner in 1950, we would not be in the situation we are in now."

The Advisor is published quarterly by the Rocky Flats Citizens Advisory Board (CAB). The Executive Editor is Linda Murakami. Please send your questions, suggestions and ideas to:

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Except as noted, all articles are written by CAB staff: Erin Rogers, Deb Thompson, Ken Korkia and Lisa Hanson. To request a change of address or to remove your name from the mailing list, contact Deb Thompson at the above address and phone number. Material may be reprinted if credit is given. Printed on recycled, recyclable paper. The CAB is funded under a 1995 grant of approximately \$300,000 sponsored by the U.S. Department of Energy.

CAB MISSION STATEMENT

The Rocky Flats Citizens Advisory Board, a nonpartisan, broadly representative, independent advisory board with concerns related to Rocky Flats activities, is dedicated to providing informed recommendations and advice to the agencies (Department of Energy, Colorado Department of Public Health and Environment and the Environmental Protection Agency), government entities and other interested parties on policy and technical issues and decisions related to cleanup, waste management and associated activities. The Board is dedicated to public involvement, awareness and education on Rocky Flats issues.

Rocky Flats Public Meeting Calendar

September			
7	<i>Rocky Flats Citizens Advisory Board Meeting</i>	6 - 9:30 p.m.	Westminster City Hall
11	<i>CAB Site Wide Issues Committee</i>	7 - 9 p.m.	R. Flats Local Impacts Initiative
12-13	<i>Health Advisory Panel Technical Work Session (tentative)</i>	To be determined	To be determined
12	<i>Health Advisory Panel Public Meeting</i>	7 - 9 p.m.	Westminster Ramada/Doubletree
19	<i>CAB Plutonium and SNM Committee</i>	7 - 9 p.m.	Westminster City Hall
21	<i>CAB Environmental/Waste Management Committee</i>	7 - 9 p.m.	Westminster City Hall
26	<i>CAB Alternative Use Planning Committee</i>	6:30 - 8:30 p.m.	CAB Office

October			
5	<i>Rocky Flats Citizens Advisory Board Meeting</i>	6 - 9:30 p.m.	Westminster City Hall
9	<i>CAB Site Wide Issues Committee</i>	7 - 9 p.m.	Westminster City Hall
17	<i>CAB Plutonium and SNM Committee</i>	7 - 9 p.m.	Westminster City Hall
19	<i>CAB Environmental/Waste Management Committee</i>	7 - 9 p.m.	Westminster City Hall
24	<i>CAB Alternative Use Planning Committee (tentative)</i>	6:30 - 8:30 p.m.	CAB Office

November			
2	<i>Rocky Flats Citizens Advisory Board Meeting</i>	6 - 9:30 p.m.	Westminster City Hall
6	<i>CAB Site Wide Issues Committee</i>	7 - 9 p.m.	Westminster City Hall
16	<i>CAB Environmental/Waste Management Committee</i>	7 - 9 p.m.	Westminster City Hall
21	<i>CAB Plutonium and SNM Committee</i>	7 - 9 p.m.	Westminster City Hall
28	<i>CAB Alternative Use Planning Committee (tentative)</i>	6:30 - 8:30 p.m.	CAB Office

ALL MEETINGS ARE SUBJECT TO CHANGE, PLEASE CALL BEFORE YOU GO: (303) 420-7855

CAB also has a quarterly Community Outreach Committee meeting, please call for a schedule.

Rocky Flats' public meeting schedule for September through November has not yet been determined, please call for information.

Westminster City Hall: 4800 W. 92nd Avenue
 CAB Office: 9035 Wadsworth Pkwy., Westminster

R.F. Local Impacts Initiative: 5460 Ward Road, Suite 205, Arvada
 Westminster Ramada: (to become Doubletree) 8773 Yates Dr.

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