WINTER 2001

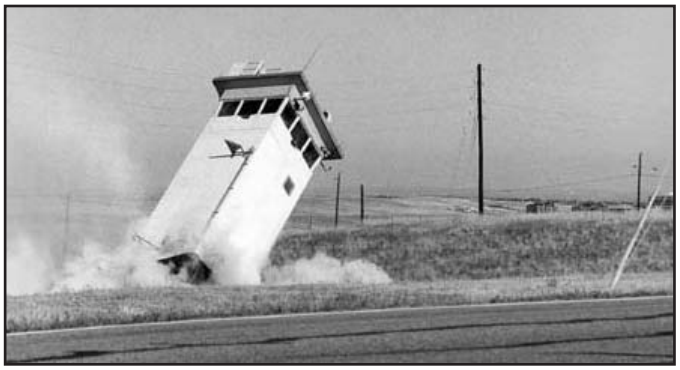
THE ADVISOR

A Publication of the Rocky Flats Citizens Advisory Board

The Changing Face of Rocky Flats: The Year 2001 in Review

When the Department of Energy first announced several years ago the goal that Rocky Flats would be closed by the year 2006, there was much skepticism that such a goal was attainable. In mid-2001, the Government Accounting Agency (GAO) released a report seriously questioning whether the site was on schedule for closure by 2006. While acknowledging that the 2006 closure goal remains elusive, the site has worked diligently in 2001 in trying to close the gap. These efforts over the past year have produced marked changes in the face of Rocky Flats.

The most notable change at Rocky Flats this year was completing the consolidation of plutonium and other nuclear materials into just one facility, Building 371. With this consolidation came the removal of much of the razor wire topped fences, access checkpoints, and other security features that for so many years were significant site landmarks. Early in November, three of the site's guard towers that once stood sentinel over the former protected area were demolished (*photo below*). These physical changes will allow the site's cleanup workers freer access to accelerate the pace of decontamination and demolition work.



While not as noticeable as these external physical changes, there also were significant accomplishments in the areas of special nuclear materials packaging, waste treatment and shipping, and cleaning out the interiors of buildings.

With respect to the remaining quantity of nuclear materials such as plutonium, the site finally was able, after running three years behind schedule, to begin operating a specialized packaging line that will prepare the plutonium for shipment from the site. By the end of this year, the site will have successfully produced over 200 canisters of plutonium ready for offsite shipment. As of this writing, however, political and other considerations remain to be resolved before actual shipping of the canisters to the Savannah River Site in South Carolina can begin. Other plutonium bearing materials, known as residues, have also undergone treatment and repackaging. Many of these materials are now classified as transuranic waste and are being shipped to the WIPP (Waste Isolation Pilot Plant) facility in New Mexico for disposal.

The site has had more success in disposing low level and transuranic waste materials from the site. In 2001, more transuranic waste was shipped to WIPP than in all previous years combined. In fact, Rocky Flats has shipped more waste to that facility than any other DOE weapons site. Even with this accomplishment, the site remains behind its shipping goals, hampered in part by the aftermath of the events on

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Highlights Inside:

Rocky Flats Updates

Health Effects Workshop

In October, the Rocky Flats Coalition of Local Governments sponsored a workshop entitled "Health Effects of Low-Level Radiation." A primary goal of the workshop was to gain a better understanding of the current body of knowledge in this specialized field of science, as well as the uncertainties that remain.

Expert presenters at the workshop included Dr. James Durham and Dr. Robert Ullrich, both professors of Radiological Health Sciences at Colorado State University; and Dr. Raymond Guilmette, a team leader in dose assessment at Los Alamos.

Cancer risk is the driving factor in the field of radiation protection. Plutonium contamination such as that found at Rocky Flats emits internal alpha radiation, which is incapable of penetrating skin but can cause harm once inside the body.

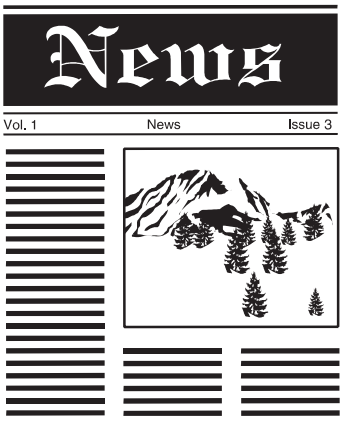
To estimate the cancer risk attributable to plutonium exposure, scientists use a dose-response model called the "linear no-threshold" model. Based on epidemiological studies of Japanese atomic bomb survivors, this model predicts that even the smallest dose can result in ill effects. Such studies, as well as the model, are fraught with numerous sources of uncertainty, not the least of which being the difficulty of using high-dose exposures to estimate risks from low-level radiation.

Other information may soon be forthcoming. An epidemiological study currently underway focuses on the Russian town of Mayak, where workers at a plutonium production facility received doses an order of magnitude higher than their United States counterparts. As a result, their cancer mortality rates have been distinctly elevated with respect to the general Russian population. The Mayak study is following a cohort of 19,000 workers; 5,000 of whom had already died by 1994. When complete, the study promises to shed more light on the risks of exposure to plutonium.

What does this mean for the environmental cleanup of Rocky Flats? The experts urged attendees of the workshop to try and put the risks from radioactive contamination in perspective with other risks we face routinely in our daily lives. Predicting what will happen more than a few generations into the future is beyond the limits of science. Beyond that, they said radiation protection standards will probably get tighter, but not drastically so, as more data comes in from studies such as that being conducted at Mayak.

Rocky Flats Reading Room Reorganization

Over the summer and early autumn, the Rocky Flats Citizens Advisory Board hired an intern from the University of Colorado at Boulder to reorganize its outdated reading room, which was in desperate need of an update. Our intern, Justin McLean, spent a great deal of time researching the other Rocky Flats Reading Rooms and developing a new cataloging system. We now have an accurate database of nearly every document located at the Board's offices. All are now sorted by topic instead of the old system, by calendar year. Next stop: the Internet. RFCAB hopes to publish this database on its web site in the future.


News
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New RFCAB Staff Member

In September, the Board approved hiring staff to replace a vacancy left by the resignation of Noelle Stenger, Program Coordinator. Meet Michelle Kump (*below*), a resident of Denver. Michelle is currently pursuing a Masters degree in Environmental Policy and Management at the University of Denver, with an expected completion date of early 2002. She also has a BS in Biology and Environmental Sciences. Michelle has worked with Edge Interactive, the National Ski Areas Association, and the Colorado Youth Program. She also served in the Peace Corps in Niger, West Africa, for three years.

Natural Resource Management Issues

Wetlands Restoration Project

The Advisor recently had the opportunity to tour a wetland being established by the U.S. Department of Energy (DOE) just west of Standley Lake. Constructed wetlands serve various functions, from improving wildlife habitat to providing humans with wastewater treatment, water reserve storage, or even simply the aesthetic enjoyment of green space. This wetland is intended to offset future disturbances of wetlands expected at the Rocky Flats site during environmental cleanup. Section 404 of the Clean Water Act is the federal legislation enabling constructed wetlands to be used for this purpose, a concept known as "mitigation banking." This basic principle of federal wetlands policy allows an entity responsible for the unavoidable destruction of wetlands to compensate for such damage by creating new wetlands.

The Standley Lake Constructed Wetland represents one of the first so-called "wetland banks" in Colorado. This 12-acre parcel was a cattle pasture just five years ago. Thanks to the purchase of water rights and the installation of a series of lateral pipes and ditches, approximately 25 percent of the low-lying rangeland purchased by DOE now supports wetland species such as bulrushes, cattails, and sedges instead of prairie grasses. Thus, site managers are likely to seek credit for having created at least three acres of wetland. The rest of the 12 acres remains mesic prairie. Officials with the U.S. Army Corps of Engineers and the Environmental Protection Agency will have the final say in determining exactly how many acres of "wetland bank credit" DOE ultimately receives. The constructed wetland will require long-term maintenance activities to ensure the functionality of the water delivery system.

Why does Rocky Flats need a wetland bank? Actually, Rocky Flats officials do not yet positively know whether one will be needed at all. Constructing the wetland was a conservative measure taken so that if wetland disturbances do occur as part of closure, the Standley Lake constructed wetland will be available to mitigate them. The current closure project baseline, predicated upon admittedly incomplete information, assumes the need for dredging sediments from some of the holding ponds along Walnut Creek, the drainage most affected by weapons production activities. But these are simply potential disturbances. Whether they actually come to pass will largely depend on important decisions yet to be made, such as what is the best pond configuration for protection of water quality in the Walnut Creek drainage. In the near-term, potential wetland impacts are limited to a small area surrounding Bowman Pond, which could be affected by hillslope recontouring scheduled for fiscal year 2002.

While DOE's primary purpose in constructing the wetland was to make amends for wetlands likely to be disturbed during Rocky Flats, the constructed wetland will also serve a critical function for wildlife on a broader scale. It is part of a key wildlife corridor that leads from Standley Lake to the Rocky Flats buffer zone, and eventually to open space areas along the foothills. Large mammals such as coyote and deer have been seen using this corridor. The corridor runs through what is now a rural, agricultural landscape. However, those sections of it not under government control are at risk of development.

As previously stated, the wetland and associated mesic prairie amount to only 12 acres in total. For such a small area, this pocket of habitat is remarkably productive. In springtime, mallards and blue-wing teal use the wetland as a nesting site. Even on the late October day *The Advisor* spent there, kestrels, marsh hawks, and red-tail hawks could be seen soaring effortlessly overhead in search of prey. Of the hundreds of red-winged blackbirds that frequent the area during the warmer months, all but a few stragglers had already flown south.

The mesic prairie portion of the habitat is just as important as the wetland itself. Common snipe nest in patches of grass hidden among the cattails. On a typical day, dozens of prairie dogs can be seen all along the border of the wetland, standing sentinel atop burrows they have built into the mesic prairie. If subdivisions encroach, as seems likely, this thin strip of grassland will become an important outpost for the prairie dog.

The habitat value of the DOE wetland is further enhanced by its proximity to a larger wetland constructed by the Woman Creek Reservoir Authority. The two parcels combined add up to perhaps 15 or 20 acres of wetland. Going forward, they may be managed as a single unit, providing important new habitats in place of those rapidly vanishing all along the Front Range.

The Changing Face of Rocky Flats (continued from page 1)

September 11. To help accelerate transuranic waste shipping, the site constructed and will begin using an additional waste loading facility early in 2002 (*photo at left*). While Rocky Flats reached a record seven shipments per week this summer, they hope to increase that number to 15 a week in 2002. With respect to other waste forms such as low level and low-level mixed waste, again there has been great progress. The majority of these wastes are shipped to waste receiver sites in Nevada and Utah. The site has now reached the point where more waste was shipped than was generated, which is notable given the increased level of decontamination and decommissioning work ongoing in the former manufacturing facilities.

In the mid-1990s, the news media dubbed Building 771 as the most dangerous building in America. In 2001, the site finished draining the last remaining plutonium bearing liquids that had been stored in tanks and held up in piping in the building. Over 31,000 feet of this piping was removed over the past year. These liquids were the greatest contributor to the building's infamous reputation. New technologies have also been employed in the building to speed up the work to remove contaminated gloveboxes and other equipment. Plasma arc torches, which employ a stream of electricity to cut metal, have been used to disassemble the gloveboxes.

Specialized tents have been erected that protect the workers who are cutting up the gloveboxes (*photo above*). These new technologies decrease the opportunity for worker contamination.

Another landmark facility at the site, Building 111, was demolished in 2001. Once the main administration building, this non-nuclear and relatively non-contaminated facility (aside from typical problems of asbestos and lead-bearing paint for a building of its age) was the focus of scrutiny in terms of establishing new norms for smarter ways of doing business at the site. The goal was to bring the cost of demolishing this building comparable to what it would be if it were not located in the middle of a nuclear facility. The site estimates that in using what it called a "commercial based approach" it saved over $1 million (*photo below*).

Even with these accomplishments, the challenges of cleaning up a former nuclear weapons facility and protecting the workforce are daunting. In 2001, the Department of Energy levied fines totaling over $385,000 to Kaiser-Hill, the site's contractor, for violations of DOE rules and procedures designed to assure nuclear safety. Most notable among these violations was an incident last year in which 11 workers were exposed to plutonium. Although not part of the levied fines, another incident occurred in October 2001 when a worker unknowingly exposed others to gases that he was venting in an exhaust hood that recirculated air into the building rather than outdoors. These incidents remind everyone that the safe cleanup and closure of the site will require extraordinary vigilance.

Besides the physical changes and other accomplishments at the site in 2001, there were notable personnel changes. Jessie Roberson, former DOE manager at Rocky Flats, is now the DOE Assistant Secretary for Environmental Management. Robert Card, who at the beginning of 2001 was the president of Kaiser-Hill, is now in the number three position within DOE as the Undersecretary of Energy. These two individuals now have major responsibility not only for the cleanup at Rocky Flats, but for the rest of the nation's nuclear weapons complex as well.

Indeed 2001 has been a year of major accomplishment in producing a changing face at Rocky Flats. At the close of the year, site officials report they are very close to falling in line with the 2006 closure schedule. Still, many things must go right in the years ahead for that goal to be realized, including the availability of off-site receiver sites. The Rocky Flats Citizens Advisory Board appreciates the site's accomplishments and advancement made toward the 2006 goal. Still, the Board is concerned that the work be done in a way that protects the health and safety of the workers and the public, and protects the environment. As recent national events have underscored, the sooner nuclear materials can be removed and the site cleaned up and closed, the safer the citizens of the Denver metropolitan area will be.

RSAL Public Meeting

For the past year, parties to the Rocky Flats Cleanup Agreement (RFCA) have been revising their calculations of radionuclide soil action levels (RSALs). It is anticipated that a new set of RSALs will be chosen by early 2002. On October 30, the decision-makers from the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Colorado Department of Public Health and the Environment held a public meeting to gather public input on the RSAL decision. More than 100 people attended this meeting.

The meeting opened with an RSAL overview. Though not strictly true in the legal sense, RSALs can be thought of as an upper limit on the amount of radioactive contaminants that will be allowed to remain in the soil at Rocky Flats. At a minimum, RSALs must be protective of the anticipated future users of the site. Other factors will figure into determining the final cleanup level, including impacts to surface water, long-term stewardship considerations, and the ALARA ("as low as reasonably achievable") principle.

Several stakeholder groups, as well as individual members of the community, were given the chance to address the decision-makers. In turn, the decision-makers spoke to the importance of community involvement and the difficulties in making an RSAL decision in the face of budgetary constraints. Specific stakeholder groups represented included RFCAB, the Rocky Flats Coalition of Local Governments, the Radionuclide Soil Action Level Oversight Panel, and the Rocky Mountain Peace and Justice Center. RFCAB chair Jerry DePoorter presented a recent Board recommendation on RSALs. Approved at its October 2001 meeting, the recommendation touches on the following policy considerations related to the RSALs:

- While RFCAB appreciates the effort that went into this regulatorily and scientifically based analysis, RFCAB recognizes the limitations of current knowledge and feels the results should be used cautiously and revisited as more knowledge becomes available.
- The RSAL should be set at the most protective end of the CERCLA risk range, and if this target cleanup is not attainable, the agencies should explain to the community why not.
- RFCAB recognizes the wildlife refuge as the most likely land use in the foreseeable future, but the RSAL should offer protection to a possible future resident as well.
- As RFCAB has stated previously, most recently in its *Vision for the Cleanup of Rocky Flats*, the ultimate end-state or goal for cleanup should be to background.
- To move toward this end-state goal, Rocky Flats should be regarded as a demonstration site for the development of plutonium remediation technology.
- The legally-binding closure document should provide for periodic reviews (every five years or more frequently) to ensure the continued reliability of institutional controls, and to assess whether better cleanup could be achieved through new technology or any other specific measures.

The full text of this recommendation can be viewed at:
www.rfcab.org/recommendations/2001-4.html

RFCAB Approves Work Plan for 2002

At a meeting held in October, the Board approved its 2002 work plan. The main focus of next year's work will be on end-state discussions, including surface and sub-surface soil contamination, protection of surface water and groundwater, and long-term stewardship issues. To coordinate these discussions, the Board will establish an End-State Discussion Steering Committee, which will develop a proposal for Board discussion, oversee the preparation and conduct of discussions, and help coordinate the activities of other Board committees involved in end-state issues. Those committees include the Environmental Restoration Committee, the Actinide Migration Evaluation Technical Review Group, and the joint Stewardship Working Group (in concert with the Rocky Flats Coalition of Local Governments). In addition, the Board in 2002 will focus on ongoing review activities such as Kaiser-Hill contract performance monitoring, on-site worker safety, D&D planning and conduct, waste and special nuclear materials packaging and shipping, natural resource management issues, and new regulations. RFCAB also will reactivate its ad hoc Outreach Committee to address public awareness and involvement in Rocky Flats issues. The Board will continue to serve as a pass-through agent for the ComRad program again in 2002, and will remain involved in activities of the Environmental Management Site Specific Advisory Board (EMSSAB).

AROUND THE DOE WEAPONS COMPLEX

This Issue: DOE's Office of Environmental Management

The Rocky Flats Citizens Advisory Board is one of ten Site-Specific Advisory Boards (SSABs) that have been formed at former nuclear weapons production sites. In each issue of The Advisor, we spotlight the activities of one of these boards, their respective sites, or other interesting information about the Department of Energy.

The Office of Environmental Management (EM) was created in 1989 to consolidate the Department of Energy's environmental management responsibilities. Specifically, the Office of Environmental Management is responsible for cleaning up sites across the nation where nuclear weapons were produced for national defense missions. The goals of the EM office are to focus on the cleanup of inactive waste sites and facilities, waste management operations, research and development programs, and environmental restoration. The Bush administration named Jessie Roberson the Assistant Secretary for Environmental Management in July of 2001. Ms. Roberson was previously the site manager of the Rocky Flats Field Office from 1996-1999.

The Office of Environmental Management consists of eight smaller offices:

- Safety, Health, and Security
- Project Management
- Management and Information
- Policy, Planning, and Budget
- Integration and Disposition
- Site Closure
- Project Completion
- Science and Technology

The Office of Site Closure handles field offices with no existing long-term missions, such as Rocky Flats, and the Office of Project Completion manages field offices with continuing missions. The Office of Site Closure was created more than 10 years ago with a primary goal of cleaning up sites in the most cost-effective, safest way and returning them to their communities for other uses. This office has established a vision which has been captured in the following five points:

1. Set the standard for safe, cost-effective closure of nuclear facilities.
2. Be the model for transitioning government activities from operations to closure.
3. Achieve end-states that are safe now and enable protective, effective stewardship for the future.
4. Deploy new technologies to help the drive toward closure.
5. Focus on closing sites by 2006.

Rocky Flats is considered one of the model sites for implementing this vision. The Deputy Assistant Secretary for the Office of Site Closure, James Fiore remarked, "The Department [of Energy] needs to adopt a closure culture at many of our sites, and Rocky Flats is leading the way to putting that in place."

Do you ever wonder what is going on at Rocky Flats?

Are you interested in learning more about how Rocky Flats impacts the community?

Do you have the time to work with other dedicated citizens on environmental issues?

If you answered "YES" to these questions, the Rocky Flats Citizens Advisory Board needs you!

RFCAB is soliciting applications from interested citizens in the Denver metropolitan area to apply for membership on the Board. No expertise is required. Just volunteer your time and efforts to make a difference in your community. Board membership requires a time commitment of approximately 10 to 15 hours per month, and includes attending meetings plus active participation on at least one committee.

Please call 303-420-7855 to receive an application packet by mail. If you prefer, the application is available on our website located at www.rfcab.org. Click on the link for "Board Vacancies" then select the "Online Application Form" - or you can go directly the application form at the following web address:

http://www.rfcab.org/form.html

Contact Deb Thompson at 303-420-7855 for more information.

* * * ***WOMEN AND MINORITIES ARE ENCOURAGED TO APPLY*** * * *

RFCAB 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.

RFCAB Website: *www.rfcab.org*

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Rocky Flats Public Meeting Calendar

January			
3	Rocky Flats Citizens Advisory Board Meeting	6 to 9:30 p.m.	Jeffco Airport
7	Rocky Flats Coalition of Local Governments	8 to 11 a.m.	Jeffco Airport
9	RFCA Stakeholder Focus Group	3:30 to 6:30 p.m.	Broomfield Municipal Center
23	RFCA Stakeholder Focus Group	3:30 to 6:30 p.m.	Broomfield Municipal Center
24	Stewardship Working Group	3:30 to 5:30 p.m.	Arvada City Hall
February			
4	Rocky Flats Coalition of Local Governments	8 to 11 a.m.	Jeffco Airport
6	RFCA Stakeholder Focus Group	3:30 to 6:30 p.m.	Broomfield Municipal Center
7	Rocky Flats Citizens Advisory Board Meeting	6 to 9:30 p.m.	Jeffco Airport
20	RFCA Stakeholder Focus Group	3:30 to 6:30 p.m.	Broomfield Municipal Center
28	Stewardship Working Group	3:30 to 5:30 p.m.	Arvada City Hall
March			
4	Rocky Flats Coalition of Local Governments	8 to 11 a.m.	Jeffco Airport
6	RFCA Stakeholder Focus Group	3:30 to 6:30 p.m.	Broomfield Municipal Center
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ALL MEETINGS ARE SUBJECT TO CHANGE, PLEASE CALL BEFORE YOU GO: 303-420-7855

Arvada City Hall, 8101 Ralston Road, Arvada
Broomfield Municipal Center, One DesCombes Drive, Broomfield
Jefferson County Airport Terminal Building, Mount Evans Room, 11755 Airport Way, Broomfield

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