

ROCKY FLATS MONITORING COUNCIL MEETING  
MARCH 1, 1988

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These notes are provided in paraphrased narrative style to give one a feel for the interests of the audience and the demeanor of the presenters. They focus on the questions and comments from the council and the audience. There were times when note-taking fell behind, and periods when the discussion in other parts of the room could not be heard. Areas marked with a bar in the margin were transcribed from tape which was only useful when those speaking were nearby. Information printed in (*parenthesis and italics*) are comments added by this author.

This was the first public meeting of the Rocky Flats Environmental Monitoring Council which was organized by Representative David Skaggs and Governor Roy Romer. The meeting was held at the Arvada Senior Center 6042 Wadsworth Blvd., Arvada Colorado. Members of the Council present are as follows:

Melinda Kassen  
George Fedoronko  
Beverly Honey  
Phil Bailey

Niels Schonbeck  
Jim Wilson  
Ted Tegeler  
Walter Jessel

Absent were:

Sam Williams

Ted Borst

The meeting began with a summary of the organizational meeting held on February 7, 1988. A copy of the executive order creating the council and a printed meeting summary is attached.

**A "MONTHLY UPDATE OF PERMIT ACTIVITIES"** - was presented by Mike Sattler (Colorado Department of Health).

He began by responding to a question on the differences between RCRA, Part B Operating Permit, Closure Permits and Solid Waste Management Units.

**A RCRA waste unit** was presented as any unit which received waste after the November 1980 deadline.

**A Part B Operating Permit** applies to those things like tanks and the incinerators at Rocky Flats. They are reviewed by the Department and EPA and a notice of completeness is issued. A draft permit is issued with-in 6 months of the notice of compliance. These are not permits for low level mixed waste.

**Closure plans** apply to the Solar Evaporation ponds, landfill, and spray fields. The plant was asked for a response to comments by April 5, 1988. They have two months to improve or modify them before going to public comment. Draft closure plans are expected in June or July 1988. **Post closure permits** are expected in early 1989. These only deal with hazardous materials and low level radioactivity mixed with hazardous materials. The post closure permit is to assure that ground water is monitored for 30 years. They are to assure monitoring,

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quarterly or more frequent sampling to make sure nothing is leaking out. Double lined tanks will replace the evaporation ponds. Old process waste lines are being replaced with new double ones and the west spray field is no longer used.

**TRU mixed waste** in the Part B Application is the area that manages the waste on site before going to WIPP.

**Solid waste management units** fall under CERCLA. They are areas where spills, leaks, etc. occurred before 1980. They are being dealt with by DOE under their CEARP program. Phase I was an identification process. Phase II - Investigations. The 881 hillside and 903 pad have been listed as high priority areas. The final draft was due today. Copies will be at the Westminster City Hall. EPA and CDH will do a joint review. A Final Remedial Investigation / Feasability Study will come out this fall. This is the first time a Federal facility has gone through this process.

A draft of the investigation of the 903 pad was out in January. In December 1988 RFP will prepare a feasibility study. All documents are open for public review. You can check them out and Xerox them.

The offsite contamination schedule will be addressed in June 1988.

**DISCUSSION:**

**Question:** Why hasn't CDH done all the monitoring? Why allow the company to do it?

**Response:** We don't do it because we don't have the resources (funds).

**Rebuttal:** CDH is supposed to protect the public. You should set up an agency in CDH funded by DOE and charge the cost back to DOE.

**Question:** Was there a part A permit granted?

**Response:** Part A is not a permit. It is a document that identifies each unit. Part B restricts and retains those units with regard to how they can operate. Post closure governs a unit to maintain Environmental quality.

**Question:** The length of the post closure permit is 30 years. Is 30 years long enough?

**Response:** There is a provision in the regulation to lengthen or shorten the monitoring period. This is done by the Director of the Colorado Department of Health.

**Question:** How many people were on the staff at CDH working on Rocky Flats problems?

**Response:** We have three working full time. Names and a brief work history were given for each.

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- Miullo EPA: CDH also has an enforcement group. EPA has \$110,000 in contract support plus other resources. Second party monitoring should be increased.
- Rebuttal: Since the plant is close to water it cries out for independent monitoring. Are we really getting radiation sickness when we think we have the flu?
- Question: Why aren't they (RFP) identifying the locations where they are monitoring the community? They just put code numbers in their reports.
- Question: The samplers are about 2 feet of the ground. Shouldn't they be monitoring 100 feet, 200 feet or 1000 feet as well?
- Response: That's a topic for an entire meeting. I think the locations are in the annual report or monthly report.

**A SUMMARY OF THE DOE CEARP PHASE I DOCUMENT** - by Jan Pilcher  
(Citizens Against Rocky Flats Contamination).

The review was admittedly done in consultation with Dr. Edward Martell and Dr. Jock Cobb. (*The allegations presented by Martell and Cobb are the same as those presented to the preceding Rocky Flats Monitoring committee established by Governor Lamb and Tim Wirth*). The summary was basically read from a 4 page review prepared in September 1987 for Colorado Representative Sam Williams' Ad Hoc Committee on Rocky Flats. (Copy Attached) and from Comments on CEARP phase I prepared by Jan Pilcher in September 1986. (Copy Attached).

In addition to the statements made in the printed material provided comments were made either by Ms. Pilcher or the audience that:

1. The Rocky Flats Plant should be doing **organic analysis of the atmosphere** as well as in water, and soil.
2. The Rocky Flats plant has failed to address the **air pathway to health hazards from spray irrigation**.

The committee was advised by Ms. Pilcher to look into the following areas:

1. Obtain a status report on how **pond crete** is being handled, stored, etc. Is it still sitting out side in cardboard boxes?
2. The status of **tank storage** inventory.
3. Look at the results of **well testing** in 1987 since new wells were put in. (*The implication from Ms. Pilcher and comments from the audience were that the new wells were seeing less plutonium than the old ones. Therefore they were less sensitive - no good.*)

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4. Get more recent sediment study data. (*Ms. Pilcher was questioned about the units used in her paragraphs on Off Site Water Contamination in the report to Rep. Williams (page 4) - was this really millicuries or microcuries - she didn't know*).
5. Prevent DOE from using EPA contamination standards that have never been accepted.
6. Get more information on the criticality that must have taken place after the 1957 fire. Dr. Carl Johnson found elevated levels of cesium that indicate that the Plutonium may have gone critical.
7. Plutonium contamination on site may be 100 times higher than what CEARP says. 1000 curies of plutonium may have been released from the drums - a few million times fallout levels. There needs to be discussion of removal of the pad, how and where. Clean up will cost hundreds of millions of dollars. The committee needs to address funding.

**Note:** (*The emphasis given to the above items is not to deemphasize Ms. Pilcher's zeal for pursuing every item addressed in her written materials..*)

COLORADO DEPARTMENT OF HEALTH RADIATION CONTROL - by Al Hazle, Director, Radiation Control Division.

Mr. Hazle began by suggesting to the monitoring council that that there were many documents that they could read, and if they were to do so their year would soon be expended. In his opinion there were some important ones which are as follows:

1. The EIS which covers how the plant viewed itself and environmental releases from 1953 through 1980.
2. DOE headquarters environmental survey reports.
3. National Academy of Sciences Report.
4. Emergency Plans.
5. Plutonium in soil documents
6. Plant incidents
7. Health Risk Analysis.
8. 1959 Fire
9. Plenum Fire in Building 771
10. Fire in 1969
11. 903 pad area.
12. The Lamb-Wirth task force reports.

In 1970 the Colorado Department of Health had "Q" cleared people and began to monitor stacks and began monitoring on site by the mound at the east guard shack. There wasn't just solar pond leakage. There were also incidents of water flowing over the dikes. They should have removed the ponds. Plutonium was also released to Great Western Reservoir while they were

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remodeling some of the south walnut creek ponds - they didn't think it was serious. Tritium contaminated the Broomfield water supply. Just before Governor Lamb took office DOE notified Governor Vanderhoff of burial sites. Strong winds over the 903 pad area blew material creating what is known as the lip. This is the area where some clean up was done. There was a laundry outfall cleanup, and a cleanup in the scrap yards. Sulfuric acid was spilled from the heating plant, gaskets failed resulting in high nitrates. There was a study of sewage contamination. On occupational incidents the plant must notify the state and DOE headquarters. Past monitoring efforts have been primarily for radiation and plutonium. In 1980 the state did make comments on volatile organic compounds - they are not in the EIS. CDH does not have the money to do adequate radiological, waste, plant emissions monitoring. We make the responsible party do it. CDH does do water supplies.

**WASTE SITE INVESTIGATIONS UNDER CEARP** by Tom Greengard,  
Rockwell International.

In addition to the prepared presentation which was reviewed prior to its delivery, Tom provided the following information.

1. CEARP is being expanded Nation-wide by DOE. In 1990 the CEARP program will be funded out of DOE Headquarters - not from facilities operating funds.
2. Phase III covers feasibility studies and NEPA documentation. The NEPA process will be carried out in full. Phase IV is the actual remedial action.

**Question:** We want EPA to be making the determinations on the CEARP sites. Why isn't this being done?

**Miullo EPA:** SARA addresses when EPA gets involved. They (RFP) were listed on the NPL on the possibility that things would score high enough. EPA will evaluate and buy off at some time. EPA agrees with the present priority sites. As investigations proceed there will be EPA/CDH verification. Call after the June 1988 submittal of investigation evaluations.

Rocky Flats doesn't sample or close a site without EPA/CDH concurrence. (*One chart statusing each progress at each site as it moves through the various phases would be helpful*)

**Question:** Did someone say that the runoff from 881 hillside drains down into Woman Creek?

**Response:** That's correct.

**Question:** Is pond-crete stored inside or outside in cardboard boxes?

**Response:** Outdoors

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- Question:** What's a solid waste management unit?  
**Response:** Any site which may have contained a hazardous material.
- Question:** (*From a council member*) How is your investigation program designed?  
**Response:** In accordance with a guidance document by EPA. There is 17-20 percent QA audits on bore holes. Chemistry data is handled by EPA standards.
- Question:** (*From a council member*) How are these programs managed?  
**Response:** There are seven Rockwell departments involved, QA, QC, Safety, Environment, Plutonium Operations, etc. If your question is, "Is Plant management involved?" - Yes very much so. They all meet with the Plant General Manager every Wednesday morning. (*The response was cut off by a council member*)
- Request:** **What we want to know is who is in charge of what by department. That can be a presentation at a future meeting.** Organization charts was also requested.
- Question:** What is the relevance of the NPL scoring system? Is a 40 ten times more serious than a four?  
**Response:** The NPL scoring system was used in CEARP because it is a part of the CERCLA process. We (*Rocky Flats*) have further refined it, because it did not include radioactive materials or allow them to be ranked.
- Question:** Was Dow management involved in the interviews in preparing the CEARP document?  
**Response:** No. I don't think so - I'll check.  
**Rebuttal:** We think you should interview some of the Dow management people as well as past employees.
- Question:** Will off site sites go through the same 5 phase approach?  
**Miullo EPA:** Yes the schedule will be published in June.
- Question:** Prior to 1970 DOE did not differentiate between Low Level and TRU waste. Are you likely to dig up potentially high level waste? **Response:** No. How would you know?  
**Response:** We monitor as we go.
- Question:** Didn't Dow keep records of this stuff?
- Question:** Will there be an EA or EIS for each site?  
**Response:** I can't tell you if it will cover the plant as a whole or site by site. Its under review now. We will follow all NEPA requirements.

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EPA SPEAKER NAT MIULLO

We are not insensitive to the issues. I'd like to tell you about some of the regulatory history. Early on the laws we are dealing with didn't exist anywhere. In 1954 the Atomic Energy Act was passed for the development and use of atomic power and arms. RCRA came into being in 1976. Prior to that DOE was watching itself at 16-20 facilities nation-wide. In 1983 EPA realized that it had a role at DOE facilities. In 1984 a MOU was developed between EPA and DOE (a gentlemen's agreement) that DOE would make their programs equivalent to ours. Because of EPA's pressure and CDII's aggression we got onto the Rocky Flats site. We went through an intense negotiations process in 1986. DOE had started the CEARP program prior to these negotiations. There is now clear jurisdiction and there will be more pressure for more jurisdiction. Increased oversight is possible. We now have oversight to a level DOE has never seen before from an independent agency.

**Kim Grice:** What enforcement authority do you have over DOE? Can you put them in jail? (*Speaker appeared to delight in the thought*)

**Response:** EPA cannot file law suits against another governmental agency, but we can go after the contractor, and we did fine Rockwell on violations of PCB regulations.

**Comment:** You didn't go after Dow!

**Response:** If Rocky Flats is listed on the NPL EPA will most likely go after Dow.

**Question:** If Rocky Flats becomes part of the NPL when will it be?

**Response:** Rocky Flats has clearly taken the largest step toward clean up. When we began working with them they had already started and presented CEARP to us.

**Question:** What about separating hazardous waste from by-product waste? (*A question raised earlier by Jan Pilcher*)

**Response:** That is an area that Rocky Flats needs to evaluate.

**Question:** What is the status of the EPA proposed guidelines (*EPA plutonium in soil guidance*) in Sheldon Meyer's office of Radiation Protection?

**Response:** The proposal last September was to hopefully have it finalized by the summer of 1988.

**Question:** With high level waste incineration in Building 771 what happens to the filters?

**Daugherty:** It depends on the filter and the plutonium content. It is possible that we can recover plutonium from the filters that are directly in line with plutonium processing operation. Those can be sent for recovery. By far most of the filters have a minimal amount of plutonium associated with them. Those can be compacted and sent off for disposal or they may be candidates for our low level incinerator, for which we have applied for the part B permit. Fluidized bed incinerator.

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**Question:** With this most toxic situation next to the public when do you shut down the plant? What authority does safety have to shut down production?

**Comment:** (*From a council member*) We need a demonstration / presentation on what a HEPA filter is. Who uses it, and how these filters are disposed of after they are contaminated.

**Kim Grice:** You have over 43 vents out there. Well let me rephrase that. Is it true that you have over 43 vents that are releasing radionuclides into our environment.

**Daugherty:** We have over 43 air effluent emissions points that we do monitor for radioactive materials. Some of them are associated with production and research facilities. Some of them have a minimal amount of radioactivity associated with them. But we conduct a monitoring program for them.

**Kim Grice:** And you are releasing radionuclides into our air .....

**Daugherty:** We report at our monthly exchange meeting as you know Kim minimal releases from our facilities. Well within applicable standards. Well below anything that would be associated with natural background.

**Question:** Has there been any kind of analysis of the soil and ground water in the Lyden and Jefferson County landfill areas for cesium since the accident? Has there been anything current to monitor cesium levels?

**Daugherty:** I can't answer that question but we have no indication of any criticality which was alluded to earlier for the plant site. I can't answer your question as far as the Lyden landfill goes.

**Greengard:** We looked for cesium and Strontium-90 during the remedial investigation and didn't find any.

**Al Hazle:** In response to your question there have been two studies that address fallout levels. One was done by Ed Martell that identifies the plutonium that was released as a result of the wind blown distribution from the 903 area. He used the relationship of strontium-90 to plutonium and the assumption was that there is uniform strontium 90 from world-wide fallout and the levels that he did identify looking at the front range of Colorado. Looking at plutonium levels and strontium levels, strontium levels were essentially consistent.

The State Health Department did a study on cesium-137, with the allegations of the criticality question and found that the levels were essentially uniform for the cesium 137 contamination. There was no indication of any criticality from the plant site.

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Radioactive contaminated Kerosene .....( *Couldn't hear the discussion.* )

**Walter:** Are you familiar with the ARCO site one mile south of your plant? Its inside the Rocky Flats Industrial Park. My question is two fold. Who owns or operates the Rocky Flats Industrial Park land, and the second question do you consider that offsite contamination, when a spill or drums were removed? At one time there were 8000 barrels stacked in that site when I worked there 10 years ago. Since then EPA has basically along with the state shut them down. And my second part of the two fold question is that we found evidence that some of those barrels were the barrels that were moved off the site so going back to the first part of the question does Rockwell or DOE or who takes care of the land underneath that area?

**Greengard:** I'm not at all sure which barrels you are referring to (*Comment continued but I couldn't hear it*)

**CDH:** That's off the government reservation; neither DOE nor Rockwell has anything to do with that site down there. The state has been looking at ARCO for a while. I don't know if you have talked to Jim Keefer of our department. He is involved with the cleanup of that site. Rocky Flats Industrial Park is just the name of an industrial park that various and sundry people have operated and therefore is one that has a notorious disposal problem and very badly organized storing of drums as you mentioned. As far as the drums from DOE being at ARCO I don't know about that. If you have been talking to Jim I think the state is working on that site.

**Question:** Doesn't EPA also have a remedial action at that facility?

**Response:** (by Miullo) Yes. We're actually going into some kind of soil removal remediation project under a lesser program than CERCLA that we have authority to go into these lesser contaminated areas. Now I haven't heard that they actually turned up Rocky Flats drums at that site.

**Walter:** Well it was printed on one of the inspection forms that I have from one of the employees that I used to work with. And the other question or a three fold to that question if they brought contaminated soil off of Rocky Flats Plant what's it doing on ARCO's site. There was a landfill area there. I have copies of soils analyses showing the 200 sites drill hole sites, sample sites, what ever they call them, on that 5 or 10 acre site, so it you know it proves as far as I'm concerned as a citizen that that soil belongs to Rocky Flats.

**Question:** (Female speaker from audience) Also I'd like to find out, has there been any kind of on-going study for our area which has such a higher incidence of cancer that some people refer to this area as America's Chernoble. With our

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daily contamination going on here why are there no health studies to show the incidents of the various cancers here? (referring to Arvada, Westminster, Denver in general - greater metropolitan area)

**Al Hazle:** I had thought that Sharron Norman might be here tonight who is the epidemiologist that's been involved with the Rocky Flats effort. I can't specifically answer that question. I'm sure that the environmental monitoring aspect will make sure that either Dr. Mangioni or Sharron Norman is here to address that .....

**Miullo EPA:** EPA has asked the National Cancer Institute to outline its study of Nation Wide Nuclear Facilities. I have talked to Sharron Norman and its my understanding - and this is just verbal I haven't gotten anything in writing on it that the National Cancer Institute will be looking at facilities like Rocky Flats as well as nuclear power plants like Fort St. Vrain in their study. I don't know the parameters for the study, but I've requested in writing that they outline those parameters and get it to me as soon as possible. Once I have that in my hands I can get it to you. This issue is probably one of the biggest ones you are going to wrestle with while you are on the panel. I've heard all kinds of discussions on public health problems and I have yet one scientific study to be put in my hands that proves to me that there is this kind concern that has been expressed to me in every single meeting that there is an increased rate of cancer.

**Question:** Related to that why is there not also a study that relates the other contaminated effects such as heart etchings, birth deformities and other damages of ..... fetuses in the area?

**Comment:** We need chromosome studies on site and of the immediate neighborhood.

A birth defects registry is needed.

From 1979 to 1981 there were 2000 cases of cancer in the area. Since 1981 there have been 12,000 cancers. All we get is "we will study it more we'll form another committee" People are getting sick and dying while they study.

**Comment:** The new wells in the 903 pad area are not as sensitive as the old ones. They are not finding as much plutonium as they have in the past.

**Miullo EPA:** The wells that were in place through 1987 were not RCRA quality wells. Contamination of those wells could have occurred; Whereas the wells we are currently installing are significantly different in design that will minimize the

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possibility of contamination of those wells from sources other than contaminated ground water. ....  
The new wells are better although EPA and CDH are not convinced that the last round of sampling is conclusive.

**Question:** Can one avoid conflict of interest in production versus health. We need an independent agency to look at health and safety monitoring. The data has been skewed. When Carl Johnson found tritium DOE sampled lower than they should have to make the data look good. (*This person has his Carl Johnson issues all confused - or he has been primed to ask the questions and doesn't understand them. 1. Carl Johnson didn't discover the tritium. 2. the issue on sampling had to do with soil sampling. Soil samples were collected at a greater depth by DOE than by Johnson because DOE wanted to derive an estimate of the total plutonium in soil inventory - not just what was on the surface.*)

**Comment:** The DOE has ignored the healthy worker syndrome.

**Comment:** (*From a council member*) This is only our second meeting we are not ready to go out and lobby for bills.

**Question:** Does this council have authority to require health risk assessments.

**Response:** (*Council*) We can request.

**Greengard:** Risk assessments are done as a part of the feasibility studies.

**Question:** Why doesn't CDH do more air sampling? Why are you sending your samples to DOE contract labs that only work for DOE facilities?

**Response:** (by CDH) **CDH needs one million dollars** for additional monitoring. We need to get into this in a subsequent meeting on what kind of funding we do need for additional type monitoring both from air as you mentioned, water, soil, sediment sampling, reservoir sampling etc.

**Comment:** We need to move this place to Nevada!

**Comment:** I sat in on a lecture regarding EPA's and Denver's clean up of the air and they told us about a LIDAR radar located on the site at Rocky Flats. What I understand its a three dimensional radar. Is there anybody in the room that could explain or elaborate on this?

**Response:** I think from what I know about it it is a program to better define air currents at the plant and I'm not familiar with that at all. Nat do you know at EPA have they been working with that? Nat: No I'd have to ask them. We can follow up on that.

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Question: Who's radar is it? "That's one of the other questions I had it wasn't answered in the lecture. Who was the lecturer?"  
"Carol Lyons"

**STAFF PROPOSAL FOR NEXT SEVERAL MONTHS MEETING TOPICS.**

1. Monthly update on clean up program.
2. Environmental Management and Monitoring Program.
3. Off site contamination in soil, water, and air.
4. Risk and health assessments.
5. Mixed waste incineration
6. Emission Standards
7. Regulatory Authorities
8. Plant Waste Management Operations
9. Worker Health and Safety.
10. Data Quality

See also: Printed handout titled "FOR DISCUSSION IDEAS FOR COUNCIL MEETINGS/ACTIVITIES"

**Request:** We want a couple of visits to the Plant. One to see the waste sites and the other to see the waste processes.

**Response:** (Dennis Hurtt - Rockwell) We can arrange a road tour of the clean up activities. I'm sorry but the tour will not be open to the public. I'll coordinate with Jim and Steve on that. Week days would be better for us. During the day is fine. (The state and EPA also asked to be included on the tour - because they felt that there were features of the cleanup that were important that they could point out to the council)

**Kim:** What's the council going to achieve by touring the plant? George has been on a tour he can tell you what it is like.

**Response:** Kim its always helpfull to see what it is that we are talking about. ....

**Request:** We want to know where Rocky Flats fits into the system. What comes into the plant. What goes out. Where waste is shipped. What stays and what's moving. ( I'm not sure "what stays and what's moving" is in reference to waste . It may be in reference to facilities at the plant ) We would like to cover the monitoring program next month. We will cover health risks and health assessments in May (There was a request from the audience to include health effects studies - an area where the speaker felt there is a major shortcoming in the amount of information available)

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**Question:** (*From the audience*) There should be some correlations between past accidents and how long it takes for these health problems to develop so there can be some kind of statistical tracking. How long does it take for all of these massive flu outbreaks we are having - mono, leukemia. You know there has got to be some kind of correlation that can be tracked time wise with these different accidents they are having. We are right down wind from this place. For Pete's sake!

**Response:** (CDH) Maybe not! We should have this covered at a meeting so you can understand all of the things that go into a study of health effects and that it is not that easy to make a correlation and point a finger.

**Comment:** That's why I asked about the locations of those sites in the annual report, because it looks as if you can see the air current where you can see higher incidents of the contamination right along that crest that goes directly to Arvada. On the air currents, and I would like to see some kind of information that shows us what kind of impact that has.

**Question:** The Blue Ribbon Citizens committee had \$250,000 for a technical advisory group. Can this council get money from FEMA?

**Comment:** There is an offer from the Arvada Mayor to provide a \$3000 matching grant for long term funding. Broomfield and Westminster are expected to join in.

**Comment:** The movie DARK CIRCLE should be shown at one of the meetings.

**Comment:** A file should be created by this council on Rocky Flats. Westminster has already agreed to receive council materials. Many documents are already there.

**Comment:** Hanford has a public document room for all declassified materials. Where is Rocky Flats' public reading room?

**Al Hazle:** From 1986 on CDH has a good repository of information.

**Rebuttal:** I'm interested in internal documents from Dow and Rockwell. Where is that location.

**Comment:** Historical documents from the former Rocky Flats Monitoring Committee are available.

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Point of interest -

*A man presently known only as Walter was overheard by my wife conversing with friends in the lobby during the meeting. He indicated that he intends to attend all of these meetings and plans to get DOE or Rockwell into filing suit against him. Once that happened he and his friends at the DU law school were ready to file a counter suit. He attends law school at DU; a group of students meet weekly to discuss Rocky Flats issues.*

All future meetings will be held at 7:00 p.m. on the last Tuesday of each month. The location for the next meeting is to be determined. Contacts for additional information are Tim Holeman 866-2155, Steve Smith 650 7896, or Jim Wilson 772-8687.

*Bert L. Crist*

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**ATTACHMENTS:**

Agenda Rocky Flats Environmental Monitoring Council, Second Meeting,  
Tuesday, March 1, 1988.

Executive Order Rocky Flats Environmental Monitoring Council, Governor Roy  
Romer, January 25, 1988.

News Release, State of Colorado Executive Chambers, Governor's Press Office,  
January 25, 1988.

Review and comments on CEARP Phase I. An Inventory of Hazardous Chemical  
and Radioactive Waste Sites at the Rocky Flats Nuclear weapons  
Facility, Prepared for Colorado Representative Sam Williams' Ad Hoc  
Committee on Rocky Flats by Jan Pilcher, September, 1987.

Comments On CEARP Phase I, Prepared by Jan Pilcher, Citizens Against Rocky  
Flats Contamination, September, 1986.

Rocky Flats Environmental Monitoring Council Meeting Summary, February 7,  
1988.

For discussion Ideas for council meetings/activities.

ROCKY FLATS ENVIRONMENTAL MONITORING COUNCIL  
Second Meeting  
Tuesday, March 1, 1988  
7-9:45 p.m.  
North Jefferson County Senior Center, Room E  
6842 Wadsworth, Arvada

AGENDA

- 7:00--INTRODUCTION OF MEMBERS  
--REVIEW SUMMARY OF LAST MEETING  
--REVIEW AGENDA
- 7:15--MONTHLY UPDATE ON PERMIT ACTIVITIES  
Mike Sattler & Judy Rejebian, Colorado Department of Health  
(This session officially replaces the 3 p.m. update meeting held during the past several months. The 1:30 p.m. exchange-of-information meetings will continue.)
- 7:30--CITIZENS COMMENTS AND QUESTIONS ON MONTHLY UPDATE
- 7:45--PRESENTATIONS ON THE HISTORY OF ENVIRONMENTAL CONTAMINATION AT ROCKY FLATS (with questions from the council)  
Jan Pilcher/Citizens Against Rocky Flats Contamination  
Al Hazel/Colorado Department of Health, Radiation Control  
Tom Greengard/Rockwell International  
Nat Miullo/Environmental Protection Agency
- 8:45--CITIZEN COMMENTS AND QUESTIONS ON HISTORY OF CONTAMINATION
- 9:15--DISCUSSION OF FUTURE COUNCIL MEETING TOPICS
- 9:30--FUNDING AGREEMENTS FOR COUNCIL WORK
- 9:45--ADJOURNMENT

Beginning March 29, regular meetings of the council will be held at 7 p.m. the last Tuesday of each month. For locations or other information, please call Governor's office (Tim Holeman, 866-2155), Congressman Skaggs' office (Steve Smith, 650-7886), or Chair Jim Wilson, 772-8687.

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EXECUTIVE ORDER  
ROCKY FLATS ENVIRONMENTAL MONITORING COUNCIL

- WHEREAS, the Rocky Flats Monitoring Committee has made important contributions to improving the public understanding of issues concerning the Rocky Flats Nuclear Weapons Plant;
- WHEREAS, Colorado citizens are concerned and wish to be informed about public, safety, and environmental matters concerning plant operations, and
- WHEREAS, new circumstances regarding efforts by the facility to conduct its operations in a manner that is safe to the public and the environment, as well as the changing regulatory authority of the State of Colorado, require revisions of the mission and structure of the council;

NOW, THEREFORE, I, Roy Romer, Governor of the State of Colorado, by virtue of the authority vested in me under the laws of the State of Colorado, and with the approval of Congressman David Skaggs, DO HEREBY ORDER THAT:

There is created a Rocky Flats Environmental Monitoring Council, hereinafter called the Council.

I. The goals of the Council are:

A. To promote communication among the Colorado Department of Health, the Environmental Protection Agency, the U.S. Department of Energy, the contract operator of the Rocky Flats Plant, Rockwell International, and the public regarding current hazardous and radioactive waste management programs and environmental, health and safety protection activities at Rocky Flats.

B. To monitor and promote proper implementation of provisions of the federal Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act, and other laws and regulations as applicable to the Rocky Flats Plant.

C. To disseminate accurate and objective information to the public about the effectiveness of Rocky Flats' environmental, health and safety protection activities and waste management programs.

D. To monitor the effects of Rocky Flats Plant operations on public health, safety, and the environment, including reviewing risk assessments pertinent to environmental and operational activities of the plant.

II. To carry out the above goals, the council shall, within the constraints of available resources, undertake, but not be limited to, the following activities:

A. Through public forums, newsletters or reports, provide citizens with accurate, concise and understandable explanations of complex issues and information. Public forums shall be held at locations and times that encourage citizen participation.

B. Include representatives from various organizations, local governments, and individual citizens to advise and assist formally in council activities.

C. To assist public officials and citizens in understanding the implications of plant operations on public health, safety, and the environment, provide local units of governments with all relevant information on plant health, safety, and environmental programs.

D. Monitor and advise the Health Department and the EPA in carrying out their regulatory responsibilities at Rocky Flats.

E. Provide to the Governor and the representative of the Second Congressional District progress reports and recommendations on actions that should be taken to protect the environment and public safety and health.

F. Provide periodic evaluations and recommendations to appropriate state, federal and local public officials and to the Rocky Flats plant regarding plant programs and regulatory activities related to the protection of public health, safety and the environment.

G. Seek qualified expert advice on issues which may be beyond the technical capabilities of the council.

H. Establish liason with the Colorado Department of Health, the Environmental Protection Agency, and the Rocky Flats plant to assist in gathering information necessary to accomplish the goals of the council.

III. The council shall be governed by the following:

A. The council shall consist of no more than eleven members, to be appointed by the Governor after consultation with and the approval of the representative of the Second Congressional District.

B. Members of the council shall include representatives of the public, technical community, and affected units of government.

C. Members shall serve two year terms, staggered at first, and may be reappointed.

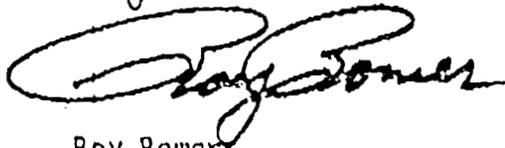
D. In the event of a council vacancy, the Governor with the approval of the representative of the Second Congressional District, may appoint a new member to fill vacant positions.

E. The Governor, with the approval of the Representative of the Second Congressional District, shall appoint a chairperson and a vice chairperson.

IV. This order supercedes any previous executive orders relating to a Rocky Flats Monitoring Committee.

V. The Rocky Flats Environmental Monitoring Council shall be reviewed not later than December 31, 1989, to determine appropriate action for its continuance, modification, or disbanding.

Given under my hand and the  
Executive Seal of the State of  
Colorado, this 26<sup>th</sup> day  
of January, 1988.



Roy Romer  
Governor

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# STATE OF COLORADO

## EXECUTIVE CHAMBERS

136 State Capitol  
Denver, Colorado 80203-1792  
Phone (303) 866-2471



Roy Romer  
Governor

January 25, 1988

## NEWS RELEASE

Colorado Gov. Roy Romer and U.S. Rep. David Skaggs, D-Colorado, Monday announced the appointment of a Rocky Flats Environmental Monitoring Council.

The council replaces the Rocky Flats Monitoring Committee first appointed by the then Gov. Dick Lamm and former U.S. Rep. Tim Wirth.

Romer said, "The members of the council will serve an important function as a communication and observation link that we believe is vital and must be continued.

"This group will provide regular reports and recommendations to Rep. Skaggs and myself on actions that should be taken to protect the environment and the public safety and health in connection with the operation of the Rocky Flats plant. That is essential information."

Skaggs said, "What happens at Rocky Flats affects our environment, our economy and each of us individually. The people who've agreed to serve on the council have an important responsibility. They will be the eyes and ears and voice of the public - monitoring the plant as it works to improve its environmental procedures and to clean up the Rocky Flats site."

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The chairman of the new council will be Jim Wilson of Longmont. Wilson is a management and natural resources consultant who recently retired after serving 16 years as president and chief executive officer for Rocky Mountain Energy in Broomfield.

Other members are:

-Phillip L. Bailey of Aurora, a sales representative with Dudois Chemicals who has been active in hazardous materials transportation issues.

-Ted Borst of Loveland, the nuclear training manager for Public Service Co. at the Fort St. Vrain plant.

-George A. Fedoronko of Arvada, who has been a member of the Arvada City Council since 1981 and currently is serving as mayor pro-tem. Fedoronko is employed as the director of telecommunications for the Denver Department of Health and Hospitals.

-Beverly Honey of Westminster, the president of the United Bank of Northglenn.

-Walter Jessel of Boulder, an environmental activist.

-Melinda Kassen of Boulder, a staff attorney for the Environmental Defense Fund's Rocky Mountain Office in Boulder.

-Heils Schonbeck, Boulder, a chemistry professor at Metropolitan State College and a visiting scientist at the National Center for Atmospheric Research in Boulder.

-Chuck Stevinson of Jefferson County who is president of Stevinson holdings, which include automobile dealerships and real estate. Stevinson has been active in various civic affairs.

---more---

-Ted J. Tegeler, a Rocky Flats employee who is the president of the United Steelworkers Local 8031 which represents Rocky Flats employees.

-State Rep. Sam Williams of Breckenridge who is a real estate broker and co-owner of International Traders Real Estate and Property Management in Breckenridge.

In the executive order in which the council was created, members were directed "to monitor the effects of Rocky Flats plant operations on the public health, safety and the environment, including reviewing risk assessments pertinent to environmental and operational activities of the plant.

The council also was given responsibility for disseminating accurate and objective information to the public about the "effectiveness of Rocky Flat's environmental, health and safety protection activities and waste management programs."

In another directive the council was instructed "to promote communications among the public, state and federal agencies and Rockwell International on the operation of Rocky Flats."

Contact:  
Cindy Parmenter or Lana Fry  
Governor's Press Office  
866-4572

Review and Comments on CEARP Phase I, An Inventory of Hazardous Chemical and Radioactive Waste Sites at the Rocky Flats Nuclear Weapons Facility

Prepared for Colorado Representative Sam Williams' Ad Hoc Committee on Rocky Flats  
by Jan Pilcher, September, 1987

DOCUMENT

Comprehensive Environmental Assessment and Response Program, Phase I, Installation Assessment Rocky Flats Plant, produced by the Albuquerque Operations Office, Environment, Safety, and Health Division, Environmental Programs Branch, April 1986

REVIEW

This document is an inventory of inactive and active chemical and radioactive hazardous waste sites on the Rocky Flats Plant. Initiated in mid-1984 by the DOE, the study was necessitated by current environmental legislation which the plant must comply with. This includes CERCLA -- Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)-- and RCRA-- Resource Conservation and Recovery Act.

The entire cleanup program, which will consist of five phases, is designed to identify, assess and correct existing or potential environmental problems. The upcoming phases will provide more information on the assessment, prioritize the sites for cleanup, develop plans and technologies for the cleanup, then actually implement the cleanup, and verify and document the remedial actions.

This inventory was developed by a review of records and literature from the Rocky Flats Plant and also from interviews with 30 plant employees, many of whom have worked at the plant since the 1950's, to find out about undocumented leaks, spills and past management practices that could have resulted in environmental problems. A three person team from Los Alamos interviewed employees September 17-22, 1984, with names, positions and dates of employees' performance omitted for anonymity and employee protection.

The inventory of more than 80 sites reveals that five sites are contaminated enough that they qualify for the Superfund National Priorities List, exceeding the threshold value of 28.5 in the risk evaluation system developed by the DOE (called an HRS). These sites include the two major water drainages on the plant, Walnut Creek (score 53) and Woman Creek (score 40), the solar evaporation ponds (score 46), the present landfill (score 34), and VOCs--volatile organic compounds-- in the ground water (score 40). Another extremely contaminated site that fell just below the 28.5 score was the 903 Drum Storage Area (score 26).

Another 31 sites have been recommended for further evaluation under Phase I and 14 sites for Phase II confirmation; one site is in Phase IV remedial action and 21 sites are into Phase V compliance and verification.

Some of the areas identified in Phase I that still need evaluation include: the underlying aquifer, to determine the extent and movement of VOCs in the groundwater; inactive disposal sites and other contaminated sites to determine the potential for release of hazardous substances to the environment; the jurisdiction of radioactive/hazardous chemical mixed waste management between the DOE, EPA, and State of Colorado; the feasibility of separating RCRA-regulated wastes from by-product and candidate mixed wastes (an important issue since most waste at the

plant is mixed and it would be expensive to segregate it); methods of disposal for non-combustible, radioactive and PCB-contaminated materials; emissions of VOCs to the atmosphere; and monitoring programs to detect hazardous substances in ground and surface water.

Several points are of interest in the introductory description of the Rocky Flats plant. One is that the plant is located near a large urbanized area, making accidental releases of hazardous substances a sensitive issue to the immediate population. Population pressures are reflected in the statistics cited: in 1980 the population within 50 miles of the plant was 1.8 million, which is projected to increase to 3.5 million by year 2000. The population within 5 miles of the plant is now 9,500, projected to increase to 20,000 by 2000. The most populated area, a sector southeast of the plant towards Denver (between 10 and 50 miles of the plant) had a 1980 population of about 555,000 people, projected to increase to 1,500,000 by the year 2000.

A second interesting point involves the hydrology and geology of the area. Rocky Flats is on a thin gravelly alluvium that is very permeable. Water flows from west to east at the plant and the groundwater surfaces at seeps and springs in the natural streams that cross the area. From the plant, Walnut Creek flows into the Great Western Reservoir, which provides drinking water for Broomfield, and Stanley Lake, which provides water for Northglenn, Thornton, and Westminster. Recently detected VOCs in the shallow aquifer at Rocky Flats have caused additional adverse public reaction. A point only glossed over in the water quality control section (p. IV-7) is that plutonium has been found in the groundwater in "low concentrations." Groundwater is estimated to take one year to move from the west to east of the plant site. The geology of the area also creates the potential for landslides to damage retention ponds and diversion ditches on site, according to the report.

Interviews also revealed that most of the buildings (Table V-1) may have radioactive contamination underneath them and in some cases, radioactive contamination may exist in the buildings' footing drains. But because the buildings are in use, no action will be taken until a building is removed. Phase II will study for potential releases of contamination through various pathways, however.

In general, the inventory in Phase I (detailed in Section V, Findings and Planned Future Actions), reveals a history of overflows, pipe and storage drum leaks, and sloppy management practices for the storage and disposal of hazardous chemical and radioactive leaks. Solutions included burial with several feet of dirt, gravelling over, paving over, and incineration.

To cite several examples:

Radioactive Sites (2) in 800 Area: Used to dispose of 320 tons of plutonium contaminated soil (at 7 disintegrations per minute per gram-dpm/g- of alpha activity, as compared to the Colorado standard of 2 dpm/g) from the Building 776 fire in 1969 and to dispose of 60 yards of plutonium contaminated soil (at 250 dpm/g of alpha activity, 125 times the state standard). This contaminated area was covered with approximately 3 feet of soil and fill as a way of managing the waste.

903 Lip Area: During the removal of leaking drums from the 903 drum storage area, winds redistributed plutonium in an estimated quantity of 1 Curie (16 grams) beyond the asphalt pad to the fence. In 1978, about 4.7 million pounds of contaminated soil with 0.56 Curies of plutonium was removed and shipped offsite. Cleanup is still ongoing, now in Phase IV.

Present Landfill, Original Plant Site, Outside the Security Fenced Area: An estimated 9 million pounds of waste is disposed annually at this onsite landfill. It received about 2,200 pounds of sanitary sewage sludge between 1968 and 1970 suspect for heavy metals and radioactivity. Leachate from this landfill contained both tritium and long-lived alphas, such as plutonium. Leachate was collected in a small pond and spray irrigated north and east of the landfill from about 1968 to 1974 and thereafter to the south and west. Qualifies for Superfund National Priorities list.

Trench T-1, 900 Area: This burial trench used from 1952 to 1962 contains 125 drums with depleted uranium chips and lathe coolant. Covered with 2 feet of soil, two drums were uncovered accidentally in 1982 when weeds were being cut. One drum contained 4.3 picocuries per gram of plutonium and 1.2 microcuries per gram of uranium.

Solar Evaporation Ponds, 900 Area: These ponds, built beginning in the 1950's to hold process wastes, were originally clay lined, later lined with planking and asphalt to hold effluent. On hot days the asphalt cement would slide, crack, and leak, and attempts were made to patch leaks with Mastick, burlap, asphalt and Phillips Petromat. Cracks continued to develop because of weather conditions, and leachate, including sanitary sewage sludge and radioactive liquid wastes, contaminated shallow groundwater. A groundwater interceptor system was later installed. Pollutants found in this system include cadmium, lead, nickel, selenium, thallium, chloroform and trichloroethylene. The ponds, with some of the highest values for contamination (HRS score of 46) of both chemical and radioactive substances, is one of the highest priorities for cleanup because the steep hillsides surrounding the plant slump when saturated with water. These ponds are located next to the North Walnut Creek drainage, so that slumping could occur, causing damage to the ponds and releasing contaminated liquids.

903 Drum Storage Area: Contained about 5,240 drums of spent machining cutting oil, of which about 3,540 contained plutonium. Many of these corroded and leaked over the years (storage began in 1954, although that is not mentioned in this particular report). Between 1967 and 1968 all the drums were removed and all contaminated materials were shipped off the plant. Efforts were undertaken to scrape the plutonium contaminated material into an area (about 3.3 acres) and top it with an asphalt cover in 1969. The DOE estimates 11.4 curies of plutonium (about 182.4 grams, as compared to the current "maximum credible release" of 100 grams) leaked into the soil before the drums were removed. An estimated 8.6 Curies remained on site and 1.7 Curies are estimated to be under the asphalt pad. The calculated HRS score of 26 for this site is just below the threshold qualifying for the Superfund list.

Waste Storage Tanks: There are a number of examples of overflows of these tanks over the years, including six concrete process waste tanks in the 700 area, used from the late 1950's to 1970, which frequently overflowed, with one overflow in the late 1950's flowing down the road toward Walnut Creek. The tanks contained a solution of plutonium, uranium, acids and caustics.

In another instance, an underground cement holding tank in the 700 Area overflowed in the early 1980's, releasing about 50 to 100 gallons high in nitrates with plutonium and uranium. Although the area was later paved over, the plant was not sure how material was cleaned up prior to the paving. Underground concrete storage tanks in the 100 Area, near Building 441, that contained nitrates and possibly radionuclides may have leaked. They were part of the original process waste system and have not been removed. An on site storage tank inventory is taking place to document where storage tanks, no longer in use but possibly still leaking and posing potential risks, are located.

Uranium Incineration Pits: Several sites on the plant were used for burning oil containing depleted uranium in the 1950's. In one case, Building 334 is constructed over Oil Burn Pit Number 1, used in 1956. The residual by-products from this incineration were covered over with soil. Oil Burn Pit Number 2 in the 900 Area, was used in 1957 and 1961-1965 to burn approximately 1,083 drums of oil containing uranium. Residues from the operations and some flattened drums were covered with backfill. The pit was cleaned up and removed in the 1970's, according to the report. Another ash pit, outside the security-fenced area on the original plant site, was located along the west access road on the plant's original west boundary. Prior to the early 1960's the small incinerator burned office material and also depleted uranium chips. The ashes were put into pits or pushed over the side of the hill next to the incinerator into the Woman Creek drainage. In the early 1960's the incinerator was demolished and the ash pits were covered with fill. The types and amounts of hazardous substances that may remain at this site are unknown.

Spills of fuel oil tanks, the disposal of lithium metal, burial of unknown chemicals, numerous leaks and spills of caustics and acids ( one of 1,500 gallons of sulfuric acid in 1970 that escaped Building 443, one of several hundred gallons of acid north of Building 444, one of about 1,000 gallons of concentrated sodium hydroxide in 1978 in the 400 Area ), and multiple solvent spills are also documented in the report. Interviewees recalled a spill of 100 to 200 gallons of trichloroethylene prior to 1970 by Building 776, although they could not recall any mitigation measures.

Groundwater Contamination: Tests done in wells on the plant site for the first time in 1985 for VOCs revealed their presence in the groundwater: trichloroethylene in 6,400 parts per billion (ppb); tetrachloroethylene 16,000 ppb; 1,1-dichloroethylene 1,300 ppb; and 1,1,1-trichloroethane 4,800 ppb. Earlier in the report it is mentioned that low levels of plutonium have been found in the groundwater, although it is never mentioned where or in what levels.

Offsite Water Contamination: Great Western Reservoir, which provides part of the water supply for Broomfield, is 1.5 miles east of the eastern edge of the plant and is fed from the north and south forks of Walnut Creek, which run through the plant site. Plutonium is estimated to be in the lake's sediments in 244 mCi and americium in 73 mCi, based on a single core sample from a 1981 study.

Standley Lake, 2 miles southeast of the plant boundary, is fed by Woman Creek and supplies part of the water supply for Westminster, Northglenn and Thornton. Based again on a single core sample from a 1981 study, plutonium was found at about 61 mCi and Americium at 18 mCi.

COMMENTS On CEARP Phase I.

Prepared by Jan Pilcher  
Citizens Against Rocky Flats Contamination  
September, 1986

In general, details in this document are inadequate for a thorough assessment of the levels of contamination at various sites, and will depend on further data being generated. As examples, the study does not cite at which well the highest levels of TCE were found; it does not cite where or in what amounts plutonium was found in groundwater. In numerous cases, the document states that a cleanup of a site "should have taken place," but does not document when, by whom, or what was done. The EPA and CDH, as well as concerned citizens, must follow up on each of these cases to make sure the proper documentation is supplied.

- \* The DOE irresponsibly uses proposed EPA guidelines that have never been accepted as a standard to assure the public that offsite plutonium contamination of the soil is safe (Section V.A.5 on Contamination of the Land's Surface). The DOE should have used the Colorado State interim standard which is considerably lower. In fact there is enough controversy over the standards that Dr. Edward Martell, a nuclear chemist at the National Center for Atmospheric Research, with Dr. Lappenbush, formerly of the EPA, have proposed standards 10 times lower than the state standards.

Information in the Meteorology section is misleading in stating that wind drainage flows from the Rocky Flats Plant turn and move toward the north and northeast. Resuspension of soil contaminated with plutonium occurs when the wind is strong and exceeds 20-30 knots/hr, blowing almost directly into the heart of Metropolitan Denver, east and southeast, as non-DOE studies have documented.

There is no mention of a criticality event in the 1957 fire, when plutonium, which had built up in the filters over a four year period, may have gone critical and spread fission products downwind. This could account for high levels of cesium--up to 31 times background levels--found by Dr. Carl Johnson in soil studies around the plant, and for the fact that levels were found at levels ten times higher near the plant than a few miles away. Cesium, created only as a by product of nuclear fission, could have been produced during a single criticality at the plant during the fire. Another possible source might be nuclear fuel rods stored at the plant which may have burned in one of the fires, producing cesium. Cesium is not mentioned in the CEARP Phase I document.

The burning of depleted uranium in oil at the plant was frequently done in the early years of the plant's operation with serious potential health consequences. Depleted uranium means the U-235 has been removed, but not other radioactive isotopes. Uranium oxide and uranium dust, attached to smoke particles and carried by the wind, were very likely inhaled by populations downwind. Uranium is an extremely effective carcinogenic agent, even though it is a lower alpha emitter than plutonium, with the potential for causing cancers and genetic damage; the latter is serious because it tends to concentrate in higher levels in the germ cells of the gonads. ← Dr. Cobb

Plutonium and americium inventories in Standley Lake and Great Western Reservoir were based on single core samples, and should be much more thoroughly documented. The document says that "based on current data, existing conditions do not pose an environmental risk," citing a 1976

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EPA document. Microorganisms and fish, which may be heavily contaminated, should also be studied.

Plutonium contamination on site in some areas may be much higher than this document suggests, as much as 100 times higher according to Dr. Edward Martell. In the 903 drum storage area, Dr. Martell estimates that if 500 drums corroded and spilled their contents, each with 6 grams of plutonium, an estimated 21 kilograms of plutonium leaked. (16 grams of plutonium equals one Curie, so potentially 1000 Curies could have been released.) The CEARP document, produced by the DOE, estimates 11.4 Curies was released. Levels of radioactivity were documented by ERDA at 50,000 picoCuries per gram just off the asphalt pad laid down as part of a containment effort by the plant in 1969; Dr. Martell estimated that contamination under the 3.3 acres of asphalt may be as high as a few million times nearby fallout levels (which measure .05 picoCuries/gram locally.) Much of the plutonium released into the soil in the years before the area was paved over blew downwind toward the Denver Metropolitan area.

Perhaps the most serious health issue for populated areas downwind of the plant is the offsite soil contamination by plutonium, which is not mentioned in this study.

### CONCLUSIONS

The CEARP Phase I document is required reading for anyone who wishes to seriously monitor the Rocky Flats Plant. Although details are inadequate for an in depth assessment, this is the first major DOE document to confirm to the general public that the extent and levels of contamination from hazardous chemical and radioactive waste are very serious.

It will be extremely important for the public to monitor the follow up to this document, CEARP Phases II through V, and cleanup plans as they are submitted by the plant to the EPA and CDH, to make sure that the work is actually done and that the holes in data, such as the promised radiometric and tank surveys and groundwater assessment, are adequately filled in. The public must have input on violations of deadlines and inadequate or unworkable cleanup plans. The public should press for the release of documents now unavailable to them because of the Unclassified but Controlled Nuclear Data status assigned by the DOE.

This clean up will cost hundreds of millions of dollars, so it will also be important to press for the addition of Rocky Flats, along with other federal facilities, to the Superfund National Priorities List. At this point it is still proposed but not accepted on the list.

Cleanup monies currently will come from the DOE's operating budget for environmental cleanup. That budget is essentially a political decision made in Congressional Appropriations committees, and depends to some extent on strong community pressure and lobbying from state and Congressional representatives, as recent appropriations to nuclear weapons facilities in Savannah River, South Carolina, and Fernald, Ohio have proven.

We must also urge the State Health Department and the EPA to provide adequate personnel and resources for oversight of this cleanup. I suggest that the legislative committee request a specific accounting of how many full-time employees at the CDH and EPA are currently assigned to the Rocky Flats cleanup effort, and if those agencies feel the level of staffing is adequate.

Lastly, it will be important to press not just for containment of contamination on the plant, but a thorough cleanup, especially of plutonium contaminated areas, as plutonium, with a half-life of 24,000 years, lasts forever and can affect the health of all future generations.

ROCKY FLATS ENVIRONMENTAL MONITORING COUNCIL  
Meeting Summary  
February 7, 1988

OPENING REMARKS

Governor Roy Romer described the council as a "tough-minded group for a tough order." He challenged the council to "protect people, and yet make it possible for industry to create new substances and uses but do that in a way that does not endanger people and the environment.

Congressman David Skaggs stressed that the council's work must emphasize accurate information and impartial reviews. He cited the importance of involving interested citizens in the work of the council.

Rocky Flats Area Manager Albert Earl Whiteman and Rockwell International's Rocky Flats President Dominick Sanchini pledged the cooperation of their staff in the work of the council.

ROCKWELL PRESENTATION

Rockwell environmental programs staffer Kirk McKinley outlined the field research and cleanup plans at the plant. His presentation is outlined in accompanying charts "RCRA/CERCLA PROGRAM OVERVIEW" (referring to the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act--two of the primary acts governing cleanup programs at sites like Rocky Flats).

Further details on Rocky Flats cleanup plans are found in the document entitled Comprehensive Environmental Assessment and Response Process (CEARP) Phase I. Copies of the overview and CEARP I are available.

EPA/Nat Miullo

EPA activities governed by Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), by the Superfund Amendment Rauthorization Act (SARA), and by the Resource Conservation and Recovery Act (RCRA). These are outlined in the three pamphlets from EPA (the various acts are outlined on page 30 of the green pamphlet). Very basically, CERCLA and SARA cover contamination from old discontinued activities and RCRA covers ongoing operations. Since Rocky Flats includes both, it is covered by both.

Mixed waste, the combination of hazardous and radioactive materials is pointly regulated by the Atomic Energy Act and RCRA. EPA is seeking to avoid redundant authority and requirements through agreements with the Nuclear Regulatory Commission, the Department of Energy, and the Colorado Department of Health.

EPA must follow CERCLA as its first priority, but continues to integrate its requirements with RCRA. Some RCRA authority has

been delegated to the State of Colorado (health department).

Some radionuclide air contaminant provisions are also found in the Clean Air Act and toxic air standards are proposed in the CAA.

#### COLORADO DEPARTMENT OF HEALTH (CDH)/Mike Sattler

Mike outlined some history and authorities affecting Rocky Flats. 11/84 Colorado was granted partial RCRA authority for Rocky Flats. 4/85 The plant submitted to CDH its "Part B" application for handling hazardous materials under RCRA. CDH issued their outline of application deficiencies in a "notice of intent to deny," including:

- need clarification on hazardous/mixed waste handling
- need better waste characterization
- need better tracking of waste streams
- need better information about effects of past practices on current operations

7/86 Compliance agreement on hazardous waste, including low level mixed waste, was reached among EPA, DOE, and CDH.

Expected CDH calendar for permits under this agreement includes: 6-7/88 draft permit for hazardous waste handling (not including incinerator proposal)

This will be followed by permit modifications, closure plans, post-closure plans, and corrective action plans. Each step will include extensive public review and comment opportunities.

Other issues to be handled by CDH (with EPA) include:

- Mixed waste incinerator proposal/trial burn decision
- Transuranic (TRU) handling permit application expected 7/88
  - There is still disagreement about what is covered by state authority
- Determination of cleanup standards (how clean is clean? where is standard measured?)
- Risk assessments on-site and off-site

#### CITIZENS AGAINST ROCKY FLATS CONTAMINATION/Tom Rauch

Tom outlined background and history of plant operations in general, and then reviewed instances of environmental contamination and safety problems, including:

- Fires in the plant
- Leaking barrels of mixed waste
- Disposal trenches
- Groundwater threats from plumes of contaminants

#### COMMENTS AND QUESTIONS FROM COUNCIL AND CITIZENS

Need for epidemiological studies of citizens near the plant.

Provide list of council members to the public.

Suggested arrangement for citizen speakers:

- 10-30 minutes for solicited presentations
- 3-5 minutes for spontaneous presentations or questions
- Provide time for questions and comments after each agenda item.

Suggested topics for council attention:

- Epidemiological studies
- Overall cleanup progress
- Environmental effect on surrounding area
- Economic effect on surrounding area
- non-DOE regulation of plant activities
- Worker safety
- Alternatives to the incinerator
- Alternatives to plowing to mediate soil contamination
- Add Ralston Reservoir to monitoring system
- Use DOE money for council expenses
- Clarify confusing information on background levels

PROCEDURES

Council agreed to meet the last Tuesday evening of each month (except for the next meeting, scheduled for March 1).  
Presentations are to be solicited from sources other than the plant and the regulating agencies.  
Regulatory schedule needs to be outlined concisely.  
Reserve some funding for invited outside expert presentations.

INFORMATION AND TOPICS FOR NEXT MEETING

- History and chronology of contaminated sites evaluation
- Details of the compliance agreement
- General historical perspectives
- General Accounting Office information about the plant
- Recent change in EPA/CDH authority sharing at the plant

## IDEAS FOR COUNCIL MEETINGS/ACTIVITIES

o Similar to tonights meeting, each month the council will be a forum for the Colorado Department of Health's monthly update on permit activities.

o In order to monitor RCRA/CERCLA activities the Council will need to hear presentations on new activities, documents, studies and findings which impact the progress of the part B permit, CEARP, and the Compliance Agreement. These presentations should be triggered by the release of such documents as the RI/FS studies. Some of the higher priorities in the next few months likely will include, Hillside 881, the 901 Pad, and RI plans for other waste units. The Health Department currently is trying to solidify a schedule of events, which could help to determine the schedule of presentations. The council may want to remain flexible and schedule presentations when a significant document must be reviewed.

o Last, there are numerous other more general issues which may warrant devoting a major portion of an evening to an expanded discussion because of interest in the community. Below is a list of possible topics.

Many of the topics below may not be addressed adequately in one meeting, but could warrant additional research or meetings.

- |              |   |
|--------------|---|
| March, 1988  | Current environmental management and monitoring program at the facility.                                    |
| April, 1988  | Off-site contamination: soil, water and air   |
| May, 1988    | Health risk assessments: The current state of information on health risks associated with plant activities. |
| June, 1988   | Incineration of mixed hazardous and radioactive wastes. The trial burn.                                     |
| July, 1988   | Emission Standards: how safe is safe  |
| August, 1988 | Appropriate Regulatory Authority: Federal, state, local; National legislation regarding federal facilities. |
| Oct, 1988    | Waste management operations today and in the future   |
| Sept, 1988   | Worker health and safety  |

A combination of the above three activities in one evening may be ambitious. One option is to consider the use of subcommittees, which enlist council members, volunteers and experts to package a presentation on a featured topic. Several months advanced planning will provide the council with adequate tim to put together a useful, informative meeting.



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**INTEROFFICE CORRESPONDENCE**

DATE March 21, 1990 GVP.TCRR89  
TO Distribution  
FROM GHS G.H. Setlock, Manager, CAER, Bldg. 250, X2453  
SUBJECT COMMUNITY RIGHT-TO-KNOW--TOXIC CHEMICAL RELEASE  
REPORTING FOR CALENDAR YEAR 1989

The Emergency Planning and Community Right-To-Know Act became law in 1986 and is administered by the Environmental Protection Agency (EPA). This regulation requires mandatory toxic chemical release reporting to give communities across the nation access to information about the hazardous materials which facilities in and around them are using. With this information, communities can then better plan for the potential impacts the presence of those chemicals may pose to them.

For Rocky Flats, this reporting requirement involves providing release data for ten pure (single component) chemicals which exceed the 1989 annual threshold quantity of 10,000 lbs. These items are listed in Table I. Mixtures are currently being examined. If any components from mixtures are found to exceed the reporting threshold, they will be sent to you under a separate letter.

The Rocky Flats EPA Form R responsibilities can be found in Table II. I am sending one form for each of the seven pure chemicals to each person together with the instruction for filling out the form and a hypothetical example. You need only read that part of the instructions pertinent to the section(s) for which you are providing data. Fill in only those sections for which you are responsible (hand printing is fine) and return the originals to me. Please make a copy for your files.

**THE DUE DATE FOR COMPLETING AND RETURNING THE FORMS IS APRIL 24, 1990.** This will allow time for final assembly and quality assurance checks on the information prior to transmittal to DOE-RFO by their deadline of May 1, 1990. The DOE-RFO will in turn send this Rocky Flats information to EPA in time to meet the SARA III regulatory deadline.

The data to be considered are those from calendar year 1989 only. Where the data requested do not exist, informed estimates may be made. There is no requirement to generate monitoring data for this report beyond that which may already exist or be required by other existing regulations.

To aid in making estimates a reprint from the EPA booklet "Estimating Chemical Releases From Formulation of Aqueous Solutions" is enclosed. For any estimates made, documentation as to how the estimate was derived is required. Handwritten notes are fine

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as long as they are readable, understandable, and reasonable. Bound notebooks with numbered pages are highly recommended for such documentation. They must be kept for three (3) years in your files until July 1993 and made available and/or explained to the EPA upon request.

Also enclosed is a computer printout of the inventory sources for each of the seven pure chemicals. Use this when source information (location, annual use quantity, operation used for, etc.) will be useful to you. This comes from the Industrial Hygiene 1989 annual inventory.

Only the quantity released must be reported. Therefore, the total released quantity to all environmental media does not have to add up to the annual quantity used. Again, this notification is only for calendar year 1989.

Please be sure that the released quantity you arrive at does not exceed the annual release quantity for any release permit we may have which you are aware of. If you see this happening, please call me immediately so we can coordinate a resolution of such discrepancies.

If several waste treatment methods are used for a particular chemical material, then use a separate line for each method.

Use Part IV of the form if you need more space.

If you have any questions, please feel free to call G. V. Porter on my Clean Air Staff at X5537.

GHS/nrs

Distribution

S.A. Anderson

R.C. Baker

M.E. Levin

R. Zuck

T.C. Greengard w/o handouts

G. Hickie w/o handouts

F.D. Hobbs w/o handouts

J.R. Majestic w/o handouts

K.B. McKinley w/o handouts

G.L. Potter w/o handouts

GA. Schwartz w/o handouts

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TABLE I  
COMMUNITY RIGHT-TO-KNOW  
TOXIC RELEASE REPORTING FOR CALENDAR 1989  
PURE CHEMICALS

ANNUAL USE, LBS.	CHEMICAL NAME (SYNONYM)
223,387	NITRIC ACID
55,125	SULFURIC ACID
48,212	CARBON TETRACHLORIDE
45,635	1,1,1-TRICHLOROETHANE (CHLOROTHENE VG)
44,194	PHOSPHORIC ACID
27,575	HYDROCHLORIC ACID
12,545	FREON 113 (FREON TF, RACON 113)

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TABLE II  
COMMUNITY RIGHT-TO-KNOW  
TOXIC CHEMICAL RELEASE REPORTING FOR CALENDAR 1989  
EPA FORM R RESPONSIBILITIES

PART	SECTION	DESCRIPTION	RESPONSIBLE PERSON
I	1-3.9,4	Facility Identification	G. V. Porter
I	3.10	Receiving Stream/Water Body	M. E. Levin
II	ALL	Off-site Waste Transfer Locations	R. C. Baker
III	1-4	Chem Id, Activities, Amount	G. V. Porter
III	5.1-5.2	Releases to Air	G. V. Porter
III	5.3	Discharges to Water	M. E. Levin
III	5.5	Discharges to Land	R. Zuck
III	6.1-6.4	Transfers to Off-site Locations	R. C. Baker
III	7-ALL	Waste Treatment Methods/ Efficiency	S. A. Anderson
IV	ALL	Additional Information Space	AS NEEDED

3/20/90



OFFICE OF THE STATE ENGINEER  
DIVISION OF WATER RESOURCES



000024657

1313 Sherman Street-Room 818  
Denver, Colorado 80203  
(303) 866-3581

March 22, 1990

Mr. Farrel D. Hobbs  
Manager, Clean Water Act Division  
EG&G ROCKY FLATS  
Rocky Flats Plant  
P. O. Box 464  
Golden, CO 80402-0464

Dear Mr. Hobbs,

I have reviewed the "Contingency Plan for Unplanned Releases..." and offer the following comments and changes.

Dam B-5

Action Level 2: I suggest that the first condition be changed to be simply "Pool above 50% or". The situation of the lake level nearing the spillway is better addressed at Action Level 3. In addition a notification to State agencies, or at least the Dam Safety Branch would be prudent, although this does not need to be officially identified at this level.

Action Level 3: At this level the Dam Safety Branch should be notified of conditions at the dam. It will not require an active response on our part, but we would begin preparations for dealing with a situation that may continue to deteriorate.

Action Level 4: Notification to the Dam Safety Branch should include a request for an on-site inspection.

Action Level 5: With the earlier notices, you can delete the mention of contact to State agencies. The Dam Safety Branch would most certainly need to be present in this condition of alert.

Dams A-4 & C-2

Action Level 2: Suggest you delete the condition "minimum one foot below spillway". Again, this will be addressed in Level 3.

Action Level 3: You should include notification to the Dam Safety Branch at this level. I also recommend that you delete the last sentence, "Initiate action to release water at a rate equal to inflow." Under normal conditions, an "emergency release" is not warranted.

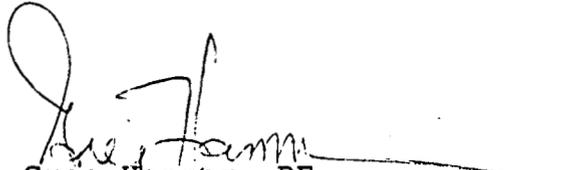
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Action Level 4: Notification to the State is required at this level, and may include a request for an inspection of the dam. Action to make releases should be initiated at this level.

Action Level 5: With the prior notification the Dam Safety Branch would be expected to be on-site at this level. Notification would not be necessary as a result.

As we discussed earlier, some of these actions are not always as clear cut as they may seem on paper. Accordingly the presence or involvement of an engineer who is knowledgeable about dams will greatly improve the response to conditions as they may change. Feel free to contact us as you see the need.

I am sending you a copy of our guidelines for preparation of an Emergency Preparedness Plan (EPP) for your assistance. I would direct your attention to page 4, which briefly describes the various levels of emergencies as we define them.



Greg Hammer, PE  
Senior Professional Engineer

COPY FAXED TO DEPT. OF HEALTH