EG&G ROCKY FLATS
Rocky Flats Plant
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Golden CO 80402 0464

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UPDATE

Environ[illegible]agement

A Periodic [illegible]ats Cleanup

August/September 1993

EG&G ROCKY FLATS

"QAT": A National First

The Q lity A tion T m p vde mmend t ons t e o man g me f i is ue f ng E me l Ma ag me t t Rocky Flat uch w t mplng

Why do some environmental restoration projects at Rocky Flats cost so much more and take longer to complete than the same type of projects at other facilities? This question has been tossed about since Rocky Flats began cleanup activities and in an effort to answer the question a Quality Action Team was established in the fall of 1992

This Quality Action Team team is made up of two representatives from the Department of Energy s Rocky Flats Office the U S Environmental Protection Agency s Region VIII the Colorado Department of Health and EG&G

Unique Approach to Quality Management

Quality Action Teams have routinely been established as an internal organization to address internal issues By incorporating members from other agencies outside of the Department of Energy the Rocky Flats Quality Action Team has broadened this application to be the only one of its kind nationally

Rules of the Team

The rules of the Quality Action Team are simple

No Digital Pagers
No Telephone Calls
At least one member from each agency must be present
Consensus from all members must be reached for a recommendation to be presented
An atmosphere of honesty without retribution
No hats (Not as representatives from the Colorado Department of Health Environmental Protection Agency Department of Energy and EG&G)

Charter Important to Good Business

The charter of the Quality Action Team is not specific to the Interagency Agreement but embodies all aspects of good business The team meets for three hours every week to work on identif ed issues which involves fact finding and making recommendations to senior management

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ADMIN RECORD

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5 ComRad Stations Now On-Line

The Department of Energy has provided funding to build and operate air monitoring stations in communities near the Rocky Flats Plant This local effort is similar to established programs across the country in which communities near nuclear facilities independently monitor air quality The Community Radiation Monitoring Program (ComRad) began with a station at the Standley Lake Library in Arvada which was operational in February 1992 Five monitoring stations are now operating at the following locations

Arvada Standley Lake Library
Arvada Ralston Recreation Center
Broomfield Emerald Park
Westminster Countryside Recreation Center
Northglenn/Thornton Northglenn Recreation Center

Latest Enhancement to Air Monitoring

These stations augment the existing environmental surveillance networks that Rockv Flats and the Colorado Department of Health have operated on and around the plant since the early 1950s The stations will enhance not replace or duplicate the current monitoring networks and will be operated independently by the communities

The ComRad program provides an educational opportunity for students and other local citizens to

Learn about the basic concepts of radiation

Learn about the existence levels and significance of environmental radiation (i e man made as well as naturally occurring) and

Understand the relative contribution that emissions from the Rocky Flats Plant make to levels of environmental radiation in local communities

The community program also encourages development of additional technical resources in local communities to help respond to general radiation related questions and to help nurture an understanding of operations at Rocky Flats

The program was initiated in September 1990 when technical representatives from several municipalities and Jefferson County the U S Environmental Protection Agency the Colorado Department of Health EG&G and the DOE met to begin planning the program The group then evaluated and selected monitoring equipment and sites for the stations

ComRad provides an opportunity for local communities to actively participate in Rocky Flat s current environmental surveillance program by independently measuring environmental levels of radioactive materials Measurements may then be independently evaluated for potential health and environmental impacts that might result from Rocky Flats operations

Each station consists of DOE purchased equipment to sample the air measure exposure from environmental sources of radiation and record meteorological conditions The four main types of equipment at each station are as follows

Air Sampling System continuously pulls air through a filter which traps small wind born particles The filters are analyzed for the presence of radioactive particles

Gamma Detector measures the exposure rate of gamma radiation in the area surrounding the station

Weather Monitoring Equipment provides current weather data such as temperature wind speed and direction and barometric pressure and

Thermoluminescent Dosimeter (TLD) contains luminescent material that is sensitive to penetrating ionizing radiation such as gamma rays

New Program Coordinator Appointed

To provide more control of the program by the community Dr Forrest Shoemaker was recently selected as the Program Coordinator Dr Shoemaker is no stranger to ComRad as he has been acting as an alternate station manager at the Countryside ComRad Station in Westminster for the last two years Forrest was awarded the Presidential Award for Excellence in Science and Mathematics Teaching National Level and the Arvada Image Award He has served as the past president of the Colorado Biology Teachers Association and is a board member of the Colorado Alliance for Science and the National Advisory Board for APAST

Dr Shoemaker will be responsible for technical support for the station managers and alternate station managers as well as the immediate oversight and operation of all the ComRad stations Most importantly Dr Shoemaker will serve as a liaison between the community and the Rocky Flats Plant

Further Information

For further information regarding the ComRad program please contact Cathy Carlson at (303) 966 4261

Rocky Flats Waste No Longer Accumulating?

Rocky Flats has again been the subject of an extensive audit regarding shipment of waste from the plant The Nevada Test Site auditors were at Rocky Flats August 23 27 to determine if Rocky Flats meets the shipment requirements for straight low level radioactive waste to the Nevada Test Site disposal facility

Shipping Waste Offsite a Critical Issue

Since the initial July 1990 audit Rocky Flats has been unable to ship low level waste to the Nevada Test Site when the auditors found that Rocky Flats did not meet the necessary requirements for shipment The one exception has been Building 559 an analytical laboratory which resumed shipments in 1992

Passing this audit is absolutely crucial for our future said Allen Schubert Director of Waste Programs

As Leo Chavez program manager for Radioactive Waste Programs stated This capability [Nevada Test Site storage] is critical to resolving waste storage problems at the plant — simply put we re running out of storage space

Straight low level waste makes up more than half of the radioactive waste generated at Rocky Flats The larger part of the straight low level waste consists of combustibles including contaminated clothing and towels

Since the July 1990 audit Rocky Flats has implemented numerous changes to address the deficiencies originally cited by the Nevada Test Site auditors Changes included the implementation of the Low Level Waste Management Plan documentation of waste through Waste/Residue Travelers the use of key custodians and extensive waste generator training including training in waste characterization

This audit culminates three years of hard work by the whole plant to demonstrate that we can safely package waste per DOE requirements said Schubert

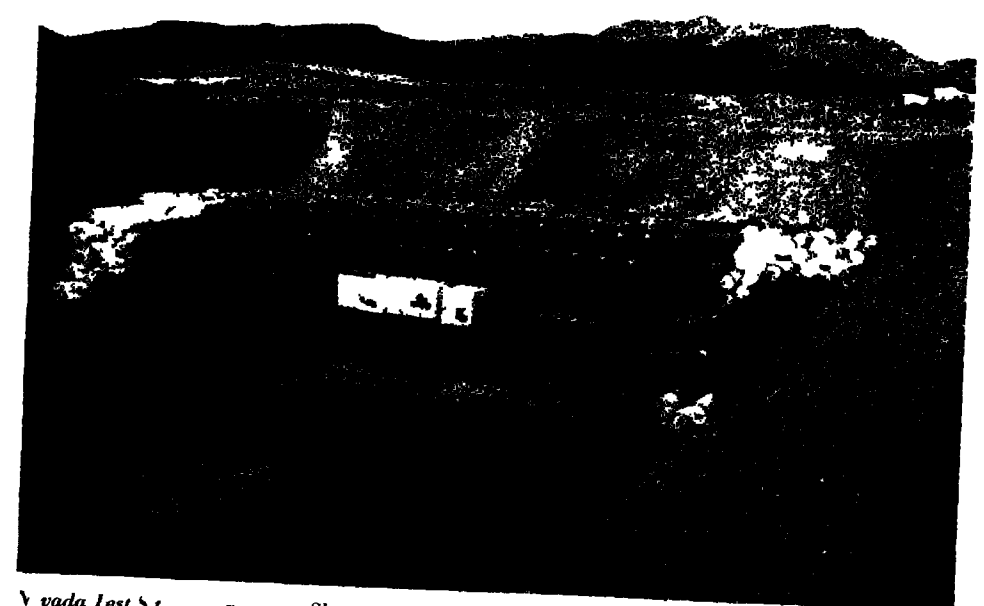
What did Nevada Test Site Auditors Look At?

The approval process began with the October 1992 submission of a waste generator application Once the application had been reviewed an audit date was established

The 12 member Nevada Test Site audit team looked at 19 major buildings that had been involved in generating low level waste and the ten major low level waste streams The major low level waste streams produced are dry combustibles light metals mixed Identification Description Codes low level waste outside the protected area wet combustibles insulation plastic prefilters glass absolute drybox filters (not acid contaminated) benelex and plexiglas The 12 auditors were divided into subgroups to better address waste stream traceability waste characterization and quality assurance

Off Site Shipment Possible

After extensive reviews of buildings processes and paperwork and multiple interviews with management and waste generators the Nevada Test Site auditors left with a changed perspective of Rocky Flats The preliminary evaluation of the RFP program revealed that despite the enormous size of the Plant site an effective program has been implemented In addition the Rocky Flats personnel displayed a clear and well defined commitment to the success of their low level waste characterization and certification program



N vada Test S t g Shipme t f ight low lev l dio ct ve w st f m Rocky Flat may begi s o as N mbe 1993

Continued on page 5

QAT A National First Continued from page 1

To date a number of issues have been considered in detail with recommendations made to senior management to help streamline environmental restoration at Rocky Flats as well as make the environmental restoration program more cost effective Examples of the issues presented are

- Environmental Restoration cost estimation
- Streamlining procurement processes
- Environmental Restoration budget submittal process to Congress

Quality Action Teams Fosters Working Relationships

In addition to being a forum for developing recommendations to senior management the Quality Action Team fosters cooperation between the parties of the Interagency Agreement in that

Everybody s got to own it [Rocky Flats cleanup]

the members work as a team to resolve issues As Wanda Busby Acting Director of Remediation Project Management put it the agencies are more willing to call and talk than to issue ultimatums It has improved relationships significantly This team approach appears to be working because as Rich Schassburger Acting Director of Environmental Management DOE says Everybody s got to own it [Rocky Flats cleanup]

MEETING PLANNED OCTOBER 21 ON HEALTH IMPACTS OF ROCKY FLATS PLANT

The Health Advisory Panel will announce results of its Phase I study on the potential risks related to past Rocky Flats Plant releases at a public meeting Thursday October 21 at 6 30 p m at the Arvada Center for the Arts and Humanities 6901 Wadsworth Blvd

The Colorado Department of Health began its two phase study in July 1990 to identify the potential health impacts of the Rocky Flats Plant on nearby communities The department contracted with the ChemRisk Division of McLaren/Hart Environmental Engineering to conduct the Phase I study which is nearing completion

Governor Roy Romer appointed a 12 member Health Advisory Panel to oversee the research project and hold periodic public meetings to inform the public and invite their input The study is funded by the U S Department of Energy as part of an Agreement in Principle signed in June 1989 by Romer and the Former DOE secretary

The State Health Department contracted with Radiological Assessments Corporations to conduct Phase II involving an independent assessment of the research underway in Phase I and more indepth study of specific issues and potential health risks

Copies of a summary report on Phase I will be issued at the meeting as well as copies of ChemRisk s draft Task 8 report on estimated doses of radioactive and other hazardous materials nearby communities may have received

Written comments on the Draft Task 8 report are invited by December 10 1993 Comments should be sent to Norma C Morin Ph D Project Director Rocky Flats Health Studies DCEED RFHS A3 4300 Cherry Creek Drive South Denver Co 80222 1530 You may call the Colorado Department of Health at (303) 692 2652 for further information or copies of reports

FEEDBACK

Let us know what you think about this Update

Fax or mail your comments questions or suggestions to.

FAX (303) [illegible]

Toni Moore
EG&G Rocky Flats
Community Relations
[illegible]
80402-0464

Regulators Authorize a Stop Work Order

A Stop Work order has been authorized by the Environmental Protection Agency and the Colorado Department of Health on the following portions of the baseline risk assessments for Operable Units 1 2 3 4 5 6 and 7

- Aggregation of Resource Conservation and Recovery Act Facilities Investigation/Remedial Investigation (RFI/RI) data for the purpose of comparing to background concentrations
- Selection of the contaminants of concern for both ecological and human health baseline risk assessments
- Aggregation of data for the purpose of conducting an exposure assessment
- Statistical comparisons of RFI/RI data to background data

The Environmental Protection Agency Colorado Department of Health and Department of Energy have determined that the Stop Work order was necessary so that the three parties can appropriately define the contaminants of concern within each Operable Unit

Although work has been stopped on the above portions of the baseline risk assessments work continues on the Interim Measure/Interim Remedial Actions

The Environmental Protection Agency and the Colorado Department of Health have authorized the Interagency Agreement Milestone schedules to be stopped retroactively as follows

- June 21 1993 for Operable Units 1 2 and 7
- July 23 1993 for Operable Unit 3
- August 12 1993 for Operable Units 4 5 and 6

Once a mutual agreement is reached with the Department of Energy Environmental Protection Agency and the Colorado Department of Health work will continue per the extended schedules

Environmental Management

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Public Invited to Use Reading Rooms

The following reading rooms contain current information technical reports and reference documents on environmental restoration at the Rocky Flats Plant

Rocky Flats Plant Reading Room
Front Range Community College Library
3645 West 112th Avenue
Level B Center of Building
Westminster Colorado 80030
(303) 469-4435
Hours

Monday Tuesday	12 00 pm	8 00 pm
Wednesday	11 00 am	4 00 pm
Thursday Friday	8 00 am	4 00 pm

Colorado Council on Rocky Flats
1536 Cole Boulevard Suite 325
Denver West Office Park Building 4
Golden Colorado 80401
(303) 232 1966
Hours

Monday Friday	8 30 am	5·00 pm

EPA Superfund Records Center
999 18th Street Suite 500
Denver Colorado 80202 2405
(303) 293 1807
Hours

Monday Friday	8 00 am	4 30 pm

Colorado Department of Health
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South
Bldg B 2nd Floor
Denver Colorado 80222 1530
(303) 692 3312
Hours

Monday Friday	8 00 am	5 00 pm

Standley Lake Library
8485 Kipling Street
Arvada Colorado 80005
(303) 423-4600
Hours

Monday Friday	10 00 am	9 00 pm
Friday Saturday	10 00 am	5 00 pm
Sunday	12 00 pm	5 00 pm

United States Department of Energy
Freedom of Information and Privacy Branch Office
1000 Independence Avenue S W
Washington D C 20585
(202) 586 6025
Hours

Monday Friday	9 00 am	4 00 pm

(Eastern Time Zone)

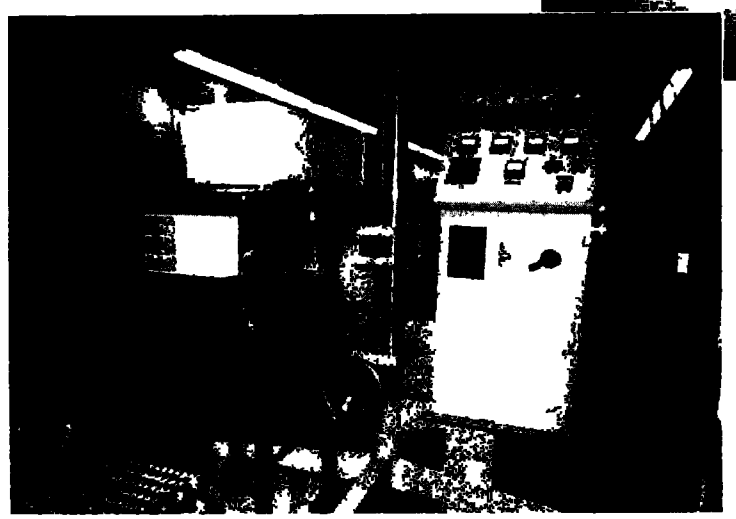
Information Repository

New Use For Plastics

Even though polymer encapsulation may sound futuristic it is actually another waste management technique being developed today by EG&G s Technology Development group at Rocky Flats

The group is studying polymer (plastic) encapsulation as a way to treat and stabilize several mixed waste (wastes containing both radioactive and hazardous constituents) streams including nitrate salts sludges secondary wastes generated from thermal treatment systems soil and cleanup debris and several miscellaneous waste streams such as ground glass and beryllium dust

Although cementation has been and continues to be a viable alternative for stabilizing specific waste streams it is often not the most cost effective or best technical solution for some waste streams In cases where cementation is not beneficial polymer encapsulation of wastes is being developed as a solution to waste stabilization



P lyme Enc p latio is be ng t t d a a method that may be us d t t t nd t b liz a ious mix d w ste t ms t R ky Flat

What is Polymer Encapsulation?

The phrase polymer encapsulation is a term used to describe a process in which mixed wastes are actually enclosed in thermoplastic or thermosetting materials Because of the variability between various waste forms several different polymers and processes will be tested

Thermoplastic polymers such as polyethylene (a commonly used plastic that is resistant to chemicals and moisture) are combined with dried waste in a piece of equipment that melts the polyethylene and mixes it with the waste The encapsulated waste is placed into a drum where it solidifies upon cooling into a form that will meet appropriate waste acceptance criteria The process operates at a maximum temperature of 1800 C requires no of gas treatment and generates no secondary waste

Current research efforts are focusing primarily on developing a process to stabilize low level nitrate salt waste (the plant s largest mixed waste stream) to a final waste form that meets criteria established not only for shipping but also for final disposal

In an effort to continue waste reduction activities the use of recycled plastics is being investigated

Further Investigations

Since some wastes generated at the plant contain low levels of radioactive isotopes including plutonium the final waste form must be resistant to ionizing radiation and possible gas generation After researching the process it was found that a polyethylene/nitrate salt waste form does not present a safety hazard either during transportation or storage Calculations indicate that the waste form will easily pass the most stringent of current disposal site gas generation and other acceptance criteria

C t w y f w t c p lated p ly thylene (plastic)

Results and Future Use

Encapsulating nitrate waste in polyethylene is a relatively recent activity Research is continuing to evaluate the durability and stability of the final waste form and to provide further assurances that it will also meet leachability standards which have been established to ensure that toxic constituents are not released into groundwater

Since polymer encapsulation looks promising for future waste management activities at the plant a pilot system is being prepared to treat wastes contaminated with plutonium Several commercial systems are being evaluated in an effort to identify the best overall unit to handle the nitrate salt wastes as well as possible future processing of debris and other waste forms Initial development indicates this process will have twice the waste loading capacity of cementation which should make the polymer encapsulation process a cost effective solution in the long haul

Operable Unit 4: Crucial Milestones Ahead of Schedule

Building 910 Evaporators

The final legal milestone associated with the diversion of the interceptor trench water and the Building 910 evaporators was defined as Building 910 Evaporators Fully Operational The Rocky Flats commitment to the Colorado Department of Health and the Environmental Protection Agency was to achieve this milestone on September 9 1993 however on July 27 1993 approximately six weeks ahead of schedule Building 910 was operational Successful operation of the Building 910 facility is a crucial precursor to closure of the Solar Evaporation Ponds and remediation of Operable Unit 4

Pond Sludge Removal

Sludge removed from Ponds B North and B Center was consolidated into Pond B South on August 18 1993 over two months ahead of the November 1 1993 milestone As a result of the consolidation sampling crews are now able to obtain the necessary soil samples required to establish remediation options for the Solar Ponds

Upcoming Public Meetings

Environmental Assessment for Building 707
October 6 1993 7 00 p m
Denver Marriott West 1717 Denver Marriott Blvd. Golden

The Rocky Flats Plant Public Meeting
October 13 1993 7 00 p m
Denver Marriott West 1717 Denver Marriott Blvd. Golden
Topic Discussion on Transition Plan for M/W M I F Is

Colorado Department of Health Advisory Panel Public Meeting
October 21 1993 6 30 p m
Arvada Center for the Arts and Humanities 6901 Wadsworth Blvd Arvada

Environmental Surveillance Exchange of Information Meeting
October 26 1993 1 30 p m
Broomfield City Council Chamber No 6 Garden Office Center Broomfield

** Other meetings may be scheduled since print time Please contact Cathy Carlson at (303) 966-1261 for information

Rocky Flats Waste No Longer Accumulating? *Continued from page 3*

Areas that are still of concern to the auditors include additional training to the procedures of the nonconformance reporting system and assurance that the Waste Certification Official is aware of the closure of nonconformance reports Confident that Rocky Flats can correct these areas of concern in the necessary time frame a follow up surveillance has been tentatively scheduled for October 6-7 1993 with the final approval report expected around October 30 1993 Once written approval is received shipments are scheduled to begin in the first quarter of fiscal year 1994

This approval for low level waste shipping to the Nevada Test Site is important to Rocky Flats cleanup for the future said Paul Aguilar of Radioactive Waste Programs Mary Vargas of the Department of Energy Environmental Management Branch says Rocky Flats will be back into the business of shipping instead of accumulating

No Resting on the Laurels

Although Rocky Flats has passed the Nevada Test Site audit this year Chavez stressed this is not the end of the road This isn t a one time audit — Nevada will come out once a year and review our operations ' he said We don t work up toward this audit and drop off the boat after we pass

Rocky Flats will have to continue to diligently monitor its low level waste and follow the rules set forth by the Nevada Test Site Defense Waste Acceptance Criteria Certification and Transfer Requirements NVO 325 Revision 1 in order to maintain a successful program and continue its shipping of straight low level radioactive waste