

MINUTES

St. Louis Site Remediation Task Force

February 20, 1996 Meeting

Hazelwood Civic Center
Hazelwood, Missouri

APPROVED

Participants Attending

Dave Alder, DOE
 Tom Binz, Laclede Gas Company
 Joseph Cavato, St. Louis County
 Kay Drey
 Jack Fraenhoffer, Mallinckrodt Chemical
 Company
 James Grant, Mallinckrodt Chemical Co.
 Leonard Griggs, Lambert Airport
 Donovan Larson, St. Louis County
 Water Company
 Tom Manning, City of Hazelwood
 Bob Marchant, Metropolitan St. Louis
 Sewer District
 Eileen O'Connor, Union Electric
 Sally Price, Chair
 Elsa Steward, MDNR
 Dan Wall, EPA

Support

Jim Dwyer, Facilitator
 Miranda Duncan, Co-Facilitator
 Chuck Jenkins, FUSRAP
 Dave Miller, SAIC
 Sarah Snyder, FUSRAP

Other Interested Parties

Wayne Black, St. Louis County Health Dept.
 Bradley Brown, St. Louis County Water Co.
 Jean Dean, League of Women Voters
 Mal Donohue, Berkeley resident
 Bob Geller, MDNR
 Ken Grothoff, Wagner Brake
 Roberta Gutwein
 Margaret Hermes
 Wayne Johnson, FUSRAP
 Ed Mahr, Jr.
 Linda Meyer, Weldon Spring Site Remedial
 Action Project
 Bob Nelson, Dawn Mining Co.
 Gerry Palau, FUSRAP
 Laurie Peterfreund, NCEIT
 Les Price, DOE-FSRD
 John Rockaway, Coldwater Creek Panel
 Conn Roden, St. Louis County Health Dept.
 Arlene Sandler
 Mitch Scherzinger, MDNR
 Dale Schreiber
 Tom Shepherd, Dawn Mining Co.
 Jan Titus, Lambert Airport
 Robert Wester, R.M. Wester and Associates

<u>Agenda Item</u>	<u>Minutes</u>	<u>Determination</u>
<i>Welcome, Opening Comments, Announcements</i>	<p>The meeting was called to order at 7:45 a.m.</p> <p>Chair Sally Price announced that Les Price, director of DOE's Former Sites Restoration Division, was attending the Task Force meeting as an observer.</p>	

*Approval of
Minutes*

Jim Dwyer asked if there were corrections to the draft minutes of the January 16, 1996 Task Force meeting. Kay Drey suggested two changes. The minutes of the January meeting were approved as amended.

**The minutes of the
January 16, 1996
Task Force
meeting were
approved as
amended.**

*Opportunity for
Public Comment*

Mr. Dwyer advised that three people had signed up to address the Task Force during the public comment period: Arlene Sandler, Margaret Hermes and Ed Mahr. He said Mr. Mahr had requested a full 10 minutes for his remarks, which is the total time normally allotted for public comment. He asked whether the Task Force would be willing to extend the time reserved for public comment in order to allow all speakers to express their thoughts. The Task Force agreed.

Mr. Dwyer said Mr. Mahr wished to speak last, and asked Ms. Sandler or Ms. Hermes to speak.

Ms. Sandler said her remarks would address the draft final report of the Coldwater Creek Panel. She said one concern she has is that the report recommends additional monitoring data and suggests the desired information could be gathered by installing a new deep monitoring well. Ms. Sandler noted that a deep monitoring well would provide another pathway for contamination to migrate from the upper groundwater to the deep aquifer and that she opposes such action.

Ms. Sandler also cited the panel's finding that the airport site is not appropriate for disposal of radioactive waste because of unsuitable site conditions. She proposed that the Task Force consider recommending removal of all the waste at the airport site and disposing of it elsewhere, as was done for a radioactive waste site in Salt Lake City.

Margaret Hermes then addressed the Task

Force. She said her comments also concerned the Coldwater Creek Panel report and were very similar to Ms. Sandler's. She noted the panel's recommendation that contaminated soil along McDonnell Boulevard and the railroad right-of-way be addressed as part of measures at the airport site. Ms. Hermes inquired where that soil would be stored.

She also said she thought the 100-year timeline the panel used for evaluating the impacts of the airport site on Coldwater Creek was not realistic because of the long half-lives of radioactive material. She said the panel's draft report left many questions unanswered.

Mal Donohue, a resident of Berkeley, asked if he could respond to Ms. Sandler's and Ms. Hermes's comments. The Task Force agreed.

Mr. Donohue said he had talked with a number of his neighbors recently about the airport site and the consensus of the group was that there is a sense of urgency about talking care of the problems at the site. He said stakeholders should concern themselves with the risks, rather than expending time and energy on discussion of "micro-details." He said the Task Force should focus on taking action at the site and developing engineering solutions. He said he and his neighbors would prefer to see something be done about the site.

Mr. Mahr then read a prepared statement to the Task Force in which he expressed his concerns regarding ongoing contamination of Coldwater Creek via surface water runoff and proposed several corrective measures for consideration. Mr. Mahr's principal concern is to safeguard sources of drinking

water. His proposed method is to account for all water that flows off SLAPS and HISS, to capture the contaminated flow and pipe it to Weldon Spring for treatment and release. (See Attachment A for complete presentation.)

In response to a point in Mr. Mahr's statement, Donovan Larson said that the St. Louis County Water Company continues to perform regular tests on raw water for radioactive particles.

*Alternative Sites
Working Group*

Mr. Dwyer reported to the Task Force on two recent presentations to the Alternative Sites Working Group. Representatives of Dawn Mining Co. presented an overview about their site in Ford, Washington on January 23, and a representative of Envirocare addressed the working group on January 25. Mr. Dwyer advised that minutes of those meetings would be distributed to Task Force members shortly.

He said the Alternative Sites Working Group plans to meet again in order to discuss the presentations and that any conclusions or recommendations would then be presented to the Task Force for consideration.

Siting Efforts

In-State Siting Effort

Mr. Dwyer reminded the Task Force that its recommendations to DOE for fiscal years 1996 and 1997 included the proposal that DOE undertake an effort to identify and evaluate suitable location(s) for a new in-state disposal or interim storage facility, and that it evaluate the use of existing local disposal facilities for minimally-contaminated soils. He advised that David Miller (SAIC) and Dave Adler (DOE) were prepared to apprise the Task Force of the status of these efforts.

David Miller reported on the status of efforts

to identify and evaluate a new in-state disposal or interim storage facility. He said that a good understanding of the steps that are necessary to site a new disposal facility can be obtained by reviewing the efforts of several states to establish low-level radioactive waste disposal facilities. He then reported on the status of efforts in Pennsylvania, California, North Carolina and Ohio. Mr. Miller's report was summarized on overheads. (Attachment B)

Ms. Drey responded to a portion of Mr. Miller's report by advising that much of the Low-Level Radioactive Waste Policy Amendments Act of 1985 was ruled unconstitutional by the Supreme Court in 1992. She said the Supreme Court ruled that states couldn't be forced to accept contaminated waste.

She also noted that there is currently a petition drive underway in Ohio for a constitutional amendment that would prevent other states from disposing of radioactive wastes in Ohio.

Ms. Drey also said that more than \$500,000 has been spent on efforts by the Ohio State University to develop materials to be used to educate the public about low-level radioactive waste.

Ms. Drey also said that MDNR's prior search in 1980 was for a hazardous waste landfill site, and not an above-ground disposal facility for low-level radioactive waste. She said she didn't think it was fair to suggest that, just because other states are having trouble locating low-level waste compact sites, that it would therefore be a problem locating a site in Missouri that would accept only Missouri radioactive wastes.

Dave Adler then reported on the status of DOE's follow-up to the ballfields management and stabilization proposal using summary overheads, (Attachment C). He said DOE has developed a proposed program designed to accomplish two objectives, as proposed by the Task Force:

- To restore the ballfields to accommodate community gatherings and recreational activities sponsored by the City of Berkeley
- To provide clean corridors to accommodate utility lines presently in contaminated areas

Mr. Adler said the proposed activities would also begin to respond to the Coldwater Creek Panel's recommendation that efforts be made to reduce the stormflow transport of contaminants into the creek.

He said that approximately 2,000 cubic yards of soil on the ballfields area contain thorium-230 concentrations exceeding 50 picocuries per gram. Approximately 48,000 cubic yards of soil contain thorium-230 in concentrations less than 50 picocuries per gram. (The soil cleanup criteria for the St. Louis Site are 5 picocuries per gram for the top six inches of soil and 15 picocuries per gram for each subsequent 6-inch layer of soil.)

Mr. Adler said four options are being evaluated and will be described in an Engineering Evaluation/Cost Analysis (EE/CA) document which will be available in the near future.

- No action - leave the site as is, with continued monitoring
- Complete excavation of all soil exceeding the 5/15 criteria; storage of

- excavated material at SLAPS
- Complete excavation, commercial disposal; all soil above the 5/15 criteria excavated and disposed of at a licensed commercial disposal facility
- Partial excavation, cover - Soil above 50 picocuries per gram of thorium-230 to be removed and disposed of at a licensed commercial disposal facility; ballfields then covered with one foot of clean soil

All alternatives, with the exception of the "no action" alternative, would include new drainage controls in the ditches north and south of McDonnell Boulevard.

Mr. Alder said the EE/CA also provides estimates of the cost of each option and assessment of the risks to the public:

- No action - \$1.5 million, with an annual dose of 4.1 millirem for a ballplayer and 5.7 millirem for a utility worker
- Complete excavation, storage at SLAPS - \$8 million, with an annual dose of 1.1 millirem for a ballplayer and 0.6 millirem for a utility worker
- Complete excavation, commercial disposal - \$40 million, with an annual dose of 1.1 millirem for a ballplayer and 0.6 millirem for a utility worker
- Partial excavation and cover with 1 foot of clean soil - \$7.2 million, with an annual dose of 0.8 millirem for a ballplayer and 0.5 millirem for a utility worker

Mr. Adler said that the annual allowable dose proposed by the EPA and NRC is in the range of 15 millirems above background. The dose from background radiation in nature averages about 300 millirems per

year.

He said there are two outstanding issues: liability and acceptability to regulatory agencies. DOE doesn't want to proceed with any remedy in the absence of MDNR and EPA support for the proposal.

Ms. Drey asked if the soil proposed to be stored at SLAPS would be in containers. Mr. Adler said the soil would not be in containers but would be placed at SLAPS and used to recontour the site for improved drainage. The imported volume would add about two feet to the existing elevation of SLAPS.

Mr. Adler said there will be a public comment period on the EE/CA, probably sometime in March.

Mr. Adler than updated the Task Force on the status of efforts to identify a sanitary landfill for disposal of minimally-contaminated material. He said that approximately 200,000 cubic yards of soil contain thorium-230 in concentrations of less than 50 picocuries per gram. He said that DOE has investigated the manner in which industrial waste generators presently handle waste streams with similar concentrations of radioactivity. He presented a summary of the findings on overheads. (Attachment D)

The Task Force approved directing DOE to bring the issue to closure by the next Task Force meeting.

Some industry practices include:

- Uranium mine overburden is piled and stabilized where it is mined
- Phosphate waste is typically stored in large piles where it is produced; some of this material is used for agricultural or construction purposes
- Coal ash is placed in on-site storage

*Sanitary Landfill
Disposal of
Minimally-
Contaminated
Material*

ponds, surface impoundments and sanitary landfills, as well as being used in road construction, embankments and in cement aggregates

- Water treatment plant residues are placed in ponds and sanitary landfills, or spread on agricultural soils

Mr. Adler said DOE originally intended to summarize its findings in a white paper for use by the Task Force. However, he said DOE has received initial feedback from regulators, including clear guidance from MDNR that it does not support this proposal.

Ms. Drey asked whether the state considers disposal of minimally-contaminated material in sanitary landfills legal. Elsa Steward said that current Missouri law prohibits disposal of radioactive material in the manner proposed.

Mr. Adler said DOE will not proceed with any proposal that does not enjoy the full support of MDNR.

Mr. Dwyer asked the Task Force how it wanted to proceed to achieve closure on this issue.

Ms. Drey moved that no more funds be spent from the FY 96-97 budget to identify a sanitary landfill for disposal of minimally-contaminated material. Ms. Price seconded the motion. Discussion ensued.

Ms. Price said she didn't think the Task Force needed to amend its original recommendation to DOE. She said she thought the process was for the Task Force to recommend ideas to DOE. If a proposal is determined to be unworkable, then it is not the role of the Task Force to take it off the

table. She said the Task Force is an advisory board and not an oversight board.

Dan Wall said there may be other options besides using a sanitary landfill in Missouri, such as demolition debris landfills or other sanitary landfills within the region but not in Missouri.

Ms. Drey said she would like DOE to ask the State of Illinois if it would accept minimally-contaminated material for disposal in a sanitary landfill.

Mr. Larson said he would like DOE to bring this to conclusion with the white paper. He offered an amendment to Ms. Drey's motion that DOE be directed to bring the issue to closure by the next Task Force meeting by giving the Task Force a clearer view of what options exist or, alternatively, a conclusion that nothing more can be done.

The amended motion was approved, with one dissenting vote.

*Coldwater Creek
Panel Report*

Mr. Dwyer advised that he had received a call on Friday, February 16, from Mimi Garstang, the MDNR representative on the Coldwater Creek Panel, who explained that she hadn't had sufficient time to review and comment on the draft report in a thorough and conclusive manner. She said that she had discussed her concerns with David Miller, the panel's chair, and it was agreed that she would provide her comments to Mr. Miller within the next week or 10 days.

Mr. Dwyer also reported that Mr. Miller had asked him to inform the Task Force that written comments from any interested party would be entertained by the panel. Mr. Dwyer said Task Force members could submit comments directly to Mr. Miller,

through Ms. Price or to him.

John Rockaway, who was attending the meeting as the panel's representative, said the panel will consider all comments before issuing its final report.

Ms. Drey distributed a written statement that included comments from her and Roger Pryor on the draft report. (Attachment E)

Dr. Rockaway said he didn't think the panel intends to debate the contents of the report per se, although the panel could clarify its findings if there were questions.

Ms. Price said it is the job of the Task Force to review the findings and to determine how the information in the report should be used.

Ms. Drey asked that discussion of the Coldwater Creek Panel report be the first item on the agenda for the March Task Force meeting.

*Development of
Draft Final Report*

Mr. Dwyer said questions have been raised about the appropriate process to be used in the creation of the initial draft of the Task Force report. He said Roger Pryor has expressed his thoughts and asked that the matter be discussed at today's meeting.

Mr. Dwyer said there are several reasonable approaches to the development of the initial draft, and the decision about how to proceed is the Task Force's.

Mr. Dwyer said that it has been his intention to develop an initial draft based on the information and conclusions that have been developed over the past 17 months. He said this is the approach that has been used successfully by working groups in preparing initial drafts of their reports, and was the

approach that was assumed when he distributed a proposed outline of the report at the July Task Force meeting.

However, he said that there are other workable approaches. One way would be to schedule an all-day (or longer) session, for all who are able to attend, to debate the important issues and to develop principles from which an initial draft can be created. Alternatively, such a working session could be scheduled for late afternoon and evening.

Mr. Dwyer then distributed and explained a matrix form which he proposed be used by the Task Force to organize its work and to record its conclusions. (Attachment F)

He said the notion behind the matrix is not to determine which specific remedies are to be proposed to DOE, but to begin to organize and define options in ways that will enable the Task Force to come to closure on a preferred set of recommendations. As proposed, the matrix would allow the Task Force to develop four option scenarios that would range from "no action" to "complete excavation and remote disposal." In between there would be two other options, with one being closer to the "no action" approach and the other closer to "complete excavation."

Mr. Dwyer proposed that a separate matrix be developed for each of the following contaminated areas:

- St. Louis Downtown Site (SLDS)
- St. Louis Airport Site (SLAPS)
- Hazelwood Interim Storage Site (HISS)
- Latty Avenue Vicinity Properties and Haul Routes
- Ballfields
- Coldwater Creek

The goal of the matrix is to allow the Task Force to work toward a synthesis of ideas about how best to clean up the St. Louis Site.

Ms. Drey said she liked the idea of holding working sessions to develop remedies. Ms. Price said she also liked the idea of a work session. She asked if anyone opposed giving Mr. Dwyer completed matrices and letting him draft the initial report from them. No one objected to that approach.

Jim Grant said the Task Force might find it useful first to meet and discuss what some of the options might look like. Then the Task Force could meet a second time to debate what options should become the final recommendations. The Task Force agreed with this approach. Participants expressed a preference for meeting on a weekday in the late afternoon. It was decided to schedule the first session for Thursday, February 29, 1996, from 4 to 9 p.m.

Old Business

Mr. Dwyer asked for comments or action on the Communications Working Group's proposal for distributing the draft final and final Task Force reports. No one was prepared to discuss it.

New Business

Ms. Price reported on the February 15 and 16 meeting of the EMAB FUSRAP Committee in Oak Ridge. She said the committee is comprised of 8 to 10 people and that it is drafting guidelines for remediating FUSRAP sites nationwide. She said that the committee expects to have its draft guidelines ready for presentation at a national stakeholders conference this June in Washington, D.C. Final guidelines will then be developed, incorporating stakeholder feedback from the conference. Ms. Price added that local stakeholders will have an

opportunity to comment on the draft guidelines if they do not attend the conference.

*Develop Agenda
for Next Meeting*

The only item proposed for the March agenda is discussion on the Coldwater Creek Panel report.

The meeting adjourned at 10:16 a.m.

The next meeting of the St. Louis Site Remediation Task Force is scheduled for March 19, 1996.

Approved March 19, 1996

TO
THE FEBRUARY 20, 1996 MEETING
OF THE ST. LOUIS SITE REMEDIATION TASK FORCE
AT THE HAZELWOOD CIVIC CENTER EAST
FROM
ED MAHR, JR.

1. HELLO, EVERYONE. MY NAME IS ED AND I'M AN EGOMANIAC. MY LAST EGOMANIA WAS ABOUT THREE OR FOUR MONTHS AGO. MY EGOMANIA EXPRESSES ITSELF BY MY BEING ABLE TO STATE A PROBLEM WITHOUT THREE YEARS OF STUDY AND SPENDING SEVERAL MILLION DOLLARS.
2. ALL YOU GENTLEMEN IN THE REAR REPRESENTING THE VARIOUS BUSINESS INTERESTS AND THE LOCAL GOVERNMENTAL ENTITIES, I'M NOT AGAINST ANY OF YOU AND I'M CERTAINLY NOT AGAINST ANY OF THE BUSINESS INTERESTS MAKING MONEY IN CLEANING UP THIS PROBLEM. I'M NOT AGAINST THE DEPARTMENT OF ENERGY OR THEIR SALARIES IN ATTEMPTING TO COME TO GRIPS WITH THIS SERIOUS PROBLEM. THIS IS, RATHER, JUST A NEW VIEWPOINT ACCORDING TO ME.

3. BUT BEFORE WE GET INTO THE PANEL'S RECOMMENDATIONS AND THE OPPOSING ARGUMENTS, I WOULD LIKE TO BRING UP SOMETHING WHICH PROBABLY WAS BEFORE MOST OF YOUR TIME. IN OTHER WORDS, YOU'RE YOUNGER THAN I AM. BARRY COMMONER WAS A BIOLOGY PROFESSOR AT WASHINGTON UNIVERSITY BACK IN THE 50S AND 60S. HE GOT HIS PICTURE ON THE COVER OF TIME MAGAZINE AS BEING THE FORMULATOR OF SOME ECOLOGY LAWS. THESE LAWS, AT THE TIME, WERE THE BEST. I DON'T KNOW WHETHER THEY'VE BEEN SUPPLANTED BY ANYTHING, BUT I'M SURE THEY'RE FAIRLY INCLUSIVE AS OPPOSED TO BEING A DETAILED ANALYSIS OF THE EYE OF A NEEDLE. I AM QUOTING THESE LAWS FROM MEMORY AND SUMMARIZING, SO YOU MAY REMEMBER THEM A LITTLE BIT DIFFERENTLY, BUT THE IDEAS ARE:

- A. EVERYTHING IS CONNECTED TO EVERYTHING ELSE.
- B. EVERYTHING GOES SOMEWHERE.
- C. THERE'S NO SUCH THING AS A FREE LUNCH.
- D. MOTHER NATURE KNOWS BEST.

YOU CAN SEE THEY ARE GREAT SIMPLIFICATIONS, BUT I DON'T THINK THE TRUTH OF THEM HAS BEEN SUPPLANTED, PARTICULARLY THE ONE THAT SAYS, "EVERYTHING GOES SOMEWHERE," AND THE OTHER ONE

ONE UNINTERRUPTED LAYER UNDER THE TOTAL AREA OF COLDWATER CREEK.

5. I DON'T REALLY PUT TOO MUCH STOCK IN THE REPORT OF THE GENTLEMEN, EVEN THOUGH I'M SURE THEY DID THE BEST JOB POSSIBLE, BECAUSE THEIR REPORT IS NOT ON THE TOTAL PROBLEM. EVERYTHING IS CONNECTED TO SOMETHING ELSE (ONE OF BARRY COMMONER'S RULES), WHICH MAKES THIS REPORT NOT TOTALLY VALID OR NOT TOTALLY ALL INCLUSIVE.

6. THE PROBLEM, THE WAY I SEE IT, IS KEEPING THE RADIOACTIVE WASTE IN THE WATER AWAY FROM THE PEOPLE OF ST. LOUIS AND ST. LOUIS COUNTY AND ALL THE RIVER COMMUNITIES DOWNSTREAM. IF THE DEPARTMENT OF ENERGY CREATES ANOTHER MOUND WITH A COVER OVER IT AT THE SLAPS SITE LIKE THEY HAVE DONE AT THE HISS SITE, AND THAT'S ALL THEY DO, THEY DON'T SEE THE BIG PROBLEM. THE PROBLEM IS TO SAFEGUARD AS MUCH OF THE DRINKING WATER OF THE UNITED STATES OR OF THE MISSOURI AND DOWNSTREAM COMMUNITIES AS IS POSSIBLE. THAT'S THE PROBLEM THE WAY I SEE IT.

BEEN COMPLETELY SOLVED EITHER. PRIOR TO THE ROOF OVER AT THE HISS SITE, THE RAIN HAD BEEN WASHING DOWN THE SIDES AND INTO COLDWATER CREEK FOR 40 YEARS.

- C. LOOKING AT THE DEPARTMENT OF ENERGY DEPTH MAP OF HOW DEEP THE RADIOACTIVE WASTE IS FROM MCDONNELL BOULEVARD UP TO HIGHWAY 270, YOU WILL SEE THAT THE ORANGE INDICATES SOME DEBRIS IS PRESENT THAT'S FROM 8 TO 18 FEET DEEP AT THE HISS SITE. IT IS IN THE BASEMENT OF SEVERAL FUTURA BUILDINGS WHERE THEY WERE ATTEMPTING TO CONVERT THE WASTE INTO SOMETHING ELSE. IT'S STILL THERE AND THE FUTURA BUILDING BASEMENTS STILL FLOOD. THEY FLOODED THE LAST TIME THERE WAS A HEAVY RAIN IN MAY, 1995. I WAS AT THE SITE AND TALKED TO A MAINTENANCE MAN WHO CONFIRMED THE FLOODING. THE MAINTENANCE MAN SAID THERE WAS ABOUT 6 FEET OF WATER IN THEIR BASEMENTS AFTER THE LAST HEAVY RAIN.

I NOW CALL YOUR ATTENTION TO THE U.S. DEPARTMENT OF ENERGY PUBLIC INFORMATION CENTER LATTY AVENUE MAILING, WHICH I RECEIVED. IT WAS DATED FALL 1995. ON THE LAST PAGE IS AN ARTICLE WITH THE TITLE, "HISS PILES NOT

1. I SAW THE TWO BIG HILLS COVERED BY THE TARP AND THE TIRES AND THE ROCKS. EACH HILL DRAINS INTO COLDWATER CREEK. THE HILL THAT IS THE FARTHEST NORTH CHANNELS THE WATER TO THE DEPARTMENT OF ENERGY TRAILER AND INTO A CATTLE CHUTE, THEN TO A 12-INCH DRAIN. THE DRAIN DOES NOT WORK TOTALLY BECAUSE, WHEN THE CREEK IS FULL OF WATER, THE WATER CANNOT GO DOWN THE DRAIN. THE DRAIN IS APPROXIMATELY 50 FEET FROM THE CREEK. SO THE WATER GOES RIGHT OVER THE 12-INCH-DIAMETER DRAIN, GOES OUT INTO THE STREET AND ATTEMPTS TO GO INTO THE CREEK, BUT THE CREEK IS SO HIGH THAT THE WATER CANNOT DRAIN; THERE'S NOT ENOUGH SLOPE. IT'S BASICALLY A FLOOD PLAIN. THE SIGN BY THE TRAILER SAYS, "CAUTION: RADIOACTIVE SOIL," OR SOMETHING TO THAT EFFECT.

2. I SAW THE SOUTH HILL THAT HAS THE SAME SORT OF DRAINAGE SITUATION. THE DITCHES ARE FUNNELING ALL THE WATER TO A CATTLE CHUTE TO A 12-INCH SEWER PIPE, WHICH GOES UNDERGROUND AND LEADS IT INTO COLDWATER CREEK. BUT, OF COURSE, THIS SEWER PIPE

TO THE LEGEND, MEANS THAT ADDITIONAL SAMPLING IS REQUIRED TO DETERMINE FULL EXTENT OF CONTAMINATION. IN OTHER WORDS, THEY DON'T KNOW HOW DEEP THE CONTAMINATION IS. IT MAY BE 18 FEET DEEP OR IT MAY BE LESS. NO ONE KNOWS.

REVERTING TO THE GABION OR BASKET OF ROCKS CONDITION, THE REASON THESE WERE INSTALLED WAS BECAUSE THE BANK WAS WASHING AWAY DUE TO THE VELOCITY OF THE WATER COMING DOWN COLDWATER CREEK. THESE BASKETS WERE NOT MEANT TO STOP THE SURFACE WATER FROM SLAPS SITE RUNNING INTO THE CREEK. THE GABIONS WERE MEANT TO STOP THE EROSION OF THE BANK, WHICH WAS CONSIDERABLE. THE VELOCITY IS CAUSED BECAUSE MOST OF THE ST. ANN AND LAMBERT AIRPORT STORM DRAINS EMPTY INTO THE UNDERGROUND 10-FOOT-DIAMETER PIPES. WHEN IT RAINS HARD, THE WATER COMES OUT OF THE TREMENDOUSLY LARGE PIPE AT FULL VOLUME AND HIGH VELOCITY. THE GABIONS WILL STOP THE SURFACE WATER FROM THE SLAPS, SO THE GABIONS' ORIGINAL PURPOSE WAS TO STOP THE VERY FAST-FLOWING WATER IN FLOOD CONDITIONS FROM ERODING THE BANK AT THE SLAPS SITE. INCIDENTALLY, AT LEAST ONE QUARTER OF THE

FLOW BACK UP IN A LOT OF OTHER SITUATIONS. HOWEVER, WE DON'T KNOW IN HOW MANY SITUATIONS BECAUSE THEY HAVEN'T GONE FAR ENOUGH NORTH IN THEIR DEPTH SAMPLING.

LOOKING AT THIS OTHER LARGER MAP, YOU WILL SEE THAT AT HWY. 270 AND THE BUILDING IN WHICH WE'RE IN IS RIGHT HERE BY THIS GREEN STICKPIN. COLDWATER CREEK IS REPRESENTED BY THE GREEN LINE ALL THE WAY UP INTO THE MISSOURI RIVER. SO IF THE WATER IS BACKED INTO THAT PASSAGE CREEK DUE TO SUSPENSION IN A FLOOD CURRENT, THERE COULD BE LOTS OF LITTLE BACKWATERS ALL THE WAY UP TO THE MISSOURI RIVER AND NO ONE AT THIS PARTICULAR TIME KNOWS THE COMPLETE SITUATION.

- E. LOOKING AT THIS LARGER MAP, IF YOU'RE FAMILIAR WITH THE AREA, YOU WILL COME ACROSS A ROAD CALLED SINKS ROAD; THERE'S ALSO JAMESTOWN ROAD, HWY. 367 TO ALTON, AND BELLEFONTAINE ROAD. THIS ENTIRE AREA IS KNOWN AS THE SINKS AREA. SINKHOLES ARE THE REASON WHY THE ROADS ARE SO CURVY. SINKHOLES ARE THE REASON WHY THERE IS NOT MUCH DEVELOPMENT, AS IS DECREED BY LAW. OFFICIALS DON'T WANT ANYBODY'S HOUSE DISAPPEARING DOWN A

AN ANCIENT PARISH;" THE AUTHOR IS GILBERT GARRAGHAN;
THE DEWEY DECIMAL SYSTEM NUMBER IS 277.78 G238S. IN THE
BOOK, IT MENTIONS THE FACT THAT UP BY BELLEFONTAINE
ROAD, THERE USED TO BE A SPRING, WHICH IS NO LONGER
THERE. IT WAS THE SOURCE OF FRESH WATER FOR THE FORT.
IT ALSO MENTIONS THE SINKHOLES AND THE FLOODING OF
COLDWATER CREEK, WHICH INITIALLY WAS CALLED CREEK
FERNANDO AND THEN THE CREEK OF THE ELKS. IT SEEMS THAT
THE DEER WERE ALWAYS IN AND AROUND THAT CREEK. SINCE
I'M A LONG-TERM RESIDENT OF ST. LOUIS, I REMEMBER SOME
DEATHS DUE TO SINKHOLES THAT OCCURRED IN THE MERAMEC
RIVER NEAR THE KIRKWOOD WATER PLANT AND THE TREE
COURT SWIMMING POOL. PEOPLE WOULD DISAPPEAR IN THE
RIVER WHILE SWIMMING AND THEIR BODIES WOULD NEVER BE
FOUND. THE GENERAL CONCLUSION WAS THERE WAS A
DOWNDRAFT, A SINKHOLE IN THE RIVERBED. IT WAS NOT
ENOUGH TO CAUSE A SURFACE DISTURBANCE, BUT ENOUGH TO
DRAW THE PEOPLE DOWN IF THEY WERE OVER THE
DOWNDRAFT.

IT? THAT SPRINGS 50 YEARS AGO WERE IN PLACE THAT ARE NO LONGER THERE NOW, BUT THAT THE THROAT OF THE SPRING IS JUST CLOGGED UP? WE KNOW THAT THE MISSOURI RIVER WAS FORMED AT THE EDGE OF THE GLACIERS, ACCORDING TO GEOLOGISTS, AND, ANY TIME YOU HAVE DEBRIS FROM THE GLACIERS, YOU HAVE MANY CONDITIONS AT ITS FOOT OR EDGE. THAT'S THE HISTORY OR TOPOGRAPHY OF THE FLORISSANT AREA.

11. IT SEEMS TO ME THAT THERE'S A COMPARABLE SITUATION OUT AT THE QUARRY IN ST. CHARLES. THE REASON THAT I HEARD AT MEETINGS FOR THE QUARRY CLEAN-UP WAS THAT THE WATER WAS LEAKING OUT OF THE QUARRY AND IT WAS GETTING CLOSE TO EITHER THE WELL FIELDS OR ACTUALLY RUNNING INTO THE MISSOURI RIVER UNTREATED. I BROUGHT UP THE FACT THAT THE CITY OF ST. CHARLES GETS ITS WATER FROM THE CITY OF ST. LOUIS AND SO MAYBE THE WELL FIELDS WERE NOT THAT IMPORTANT. BUT MR. ROGER MCCrackEN MENTIONED THAT 7,000 PEOPLE, OR WAS IT 3,000 PEOPLE, IN ST. CHARLES COUNTY, NOT IN THE CITY OF ST. CHARLES, GOT THEIR WATER FROM THE WELL FIELDS. SO THE QUARRY WAS CLEANED UP, BUT IN ORDER TO CLEAN UP THE QUARRY, THEY HAD TO DO SOMETHING WITH THE WATER IN IT, AND SO THEY BUILT THE PURIFICATION PROCEDURE OUT AT THE WELDON SPRINGS AREA, AND

SMALLER ONE ALONG THE EASTSIDE THAT WOULD CATCH AND CONTAIN MOST OF THE RADIOACTIVE PARTICLES IN THE WATER, THE MUD AND WHATEVER ELSE. IT'S A NEW IDEA AND AS SUCH, IS PROBABLY NOT WORTH THAT MUCH, BUT IF YOU STOP THE CONTAMINATION FROM GOING INTO THE BACKWATERS AND INTO THE MISSOURI RIVER, WHICH IS WHAT THEY DID WITH THE QUARRY OUT AT WELDON SPRINGS, THEN I THINK MOST PEOPLE WOULD BE SATISFIED. THE RADIOACTIVE STUFF IS STILL AT THE TWO SITES, BUT THE WATER RUNOFF IS NOT GOING INTO THE WATER PURIFICATION PLANTS ALONG THE MISSISSIPPI AND MISSOURI RIVERS. THE DEPARTMENT OF ENERGY DOES NOT HAVE MONEY TO DO ALL THE HAULING IT WOULD LIKE, NOR WILL ANY STATE TAKE ALL OF THE WASTE OF SLAPS AND HISS. THE NUMERICAL, LOGISTICAL PROBLEMS ARE TREMENDOUS AND THE COSTS WOULD BE VERY HIGH, AND DEBRIS WOULD BE SCATTERED ALONG THE WAY. ALL I'M SAYING IS LET'S ACCOUNT FOR ALL THE WATER THAT FLOWS OFF SLAPS AND HISS. YOU'VE STILL GOT 50 YEARS OF WASTE IN THE CREEK. YOU HAVE STILL GOT A SIGN IN THE BACK OF THE LATTY AVENUE TRAILER SAYING THAT IT'S STILL LEECHING OUT OF THE HILLS. LET'S TAKE ALL OF THIS AND TAKE IT OVER TO THIS WATER PURIFICATION PROCESS THAT IS CLEANING UP THE RAFFINATE PITS AND THE WELDON SPRINGS TNT DEBRIS FROM THE ARMAMENT PLANT. I HAVE MY DOUBTS THAT IT'S THE BEST

AND A PURCHASED
IN PLACE RIGHT O
WAY AND OTHER
STUFF

PIPE FROM ST. LOUIS CITY WATER OVER TO ST. CHARLES BECAUSE, AS I MENTIONED, IT'S A FACT THAT ST. CHARLES GETS ITS FLUORIDATED WATER FROM THE CITY OF ST. LOUIS. THERE MAY BE NO EXISTING WAY OF GETTING WATER OVER THERE. HOWEVER, AS OF THIS TIME, I DON'T KNOW THAT ANYONE KNOWS THAT FOR A FACT. I WOULD SAY THAT A GOOD INDEPENDENT COMPANY LIKE SVERDRUP ENGINEERING COULD DO A COMPREHENSIVE STUDY WITHOUT THAT MUCH COST INVOLVED BECAUSE THE EXISTING FACILITIES ARE ON PAPER. TO BUILD A NEW PIPELINE MIGHT BE A MAJOR UNDERTAKING, BUT IT WOULD CERTAINLY BE LESS THAN THE COST OF MOVING ALL THE RADIOACTIVE WASTE OUT TO UTAH.

SO THIS IS MY EGOMANIA COMING OUT, SAYING LET'S TRAP THE DIRTY WATER IN COLDWATER CREEK, SHIP IT OVER THERE TO WELDON SPRINGS, RUN IT THROUGH THE PLANT, AND THEN CROSS OURSELVES AS WE DUMP IT DOWN INTO THE MISSOURI RIVER. I THINK THAT WOULD BE BETTER THAN THE WAY IT IS NOW. IF COLDWATER CREEK SHOULD DEVELOP A SINKHOLE IN IT, HOW MANY YEARS DO YOU THINK IT WOULD TAKE TO SOLVE THAT PROBLEM? ALL THE WHILE COLDWATER CREEK WOULD BE RUNNING INTO THE KARSTOPOGRAPHY. THE DEPARTMENT OF ENERGY DID NOT DRILL ANY HOLES AT THE SLAPS SITE BECAUSE THEY DID NOT WANT TO

POSTSCRIPT

1. THE ONLY WATER PURIFICATION COMPANY IN ST. LOUIS THAT, AS OF 10 YEARS AGO, HAD THE CAPABILITY OF TESTING FOR THE TRITIUM ION OR THE ERRADIATED IONS IN THE WATER WAS THE ST. LOUIS COUNTY WATER COMPANY, THE REST OF THEM DID NOT HAVE THE EQUIPMENT. I HAVE SINCE FOUND OUT THAT THE ST. LOUIS COUNTY WATER COMPANY NO LONGER TESTS FOR ANY ATOMIC PARTICLES IN THE WATER BEFORE THEY TAKE IT OUT OF THE MISSOURI AND CLEAN IT UP AND GIVE IT TO ST. LOUIS TO DRINK. *THEY ARE CATERING TO THE CALLAWAY NUCLEUR PLANT.*
2. ED MAHR HAD TWO YEARS OF COLLEGE GEOLOGY SO THAT GIVE ^SHIM SOPHOMORIC SUPERIORITY.

SITING AN IN-STATE CELL

ISSUES

This presentation is intended to provide the Task Force with information regarding the physical, economic, and political considerations involved in siting an in-state cell for disposal of low level radioactive materials.

The information presented here will describe the efforts of several other states to establish a low level radioactive waste disposal facility.

North Carolina, Pennsylvania, California, and Ohio were focused on because they span the range of maturity of process and degree of success.

SITING AN IN-STATE CELL

Low-Level Radioactive Waste Policy Amendments Act of 1985

The process of forming compacts was in itself a lengthy one and Congress didn't consent to their formation until 1985.

The Low-Level Radioactive Waste Policy Amendments Act of 1985 extended the continued disposal of waste at three existing sites and established milestones for the development of new facilities.

Failure to meet the milestones could result in the imposition of financial penalties, in the form of increased disposal surcharges, or denial of access to the existing facilities.

SITING AN IN-STATE CELL

California

Maturity

A conditional license was issued by the California Department of Health Services in September 1993 for a site in Ward Valley, CA. There are still several unresolved legal issues pending. However, the facility is projected to become operational by mid-1997.

Cost

As of December 31, 1994, the project had cost \$54.5 million. The estimated total cost including construction is \$75 million.

Process

After the state was screened for physical suitability, the State asked the League of Women Voters to provide informational forums in the promising areas.

SITING AN IN-STATE CELL

Ohio

Maturity

A statewide screening process will approve at least three sites for characterization by fall 1998. The facility is anticipated to be operational by 2005.

Cost

As of July, 1995, the project had cost \$1.2 million. No estimate is available for completion of the project.

Process

By early summer 2000, the Ohio Low-Level Radioactive Waste Facility Development Authority will select the disposal site to be submitted for licensing.

SITING AN IN-STATE CELL

Missouri Screening Study

Missouri has broadly screened the state for geologic and hydrologic suitability for a waste disposal site.

Five numbered categories were distinguished ranging from I to V (most suitable to least suitable, respectively). The areas screened were large and the report emphasized that unsuitable sites are present in areas broadly designated as suitable and vice-versa.

SLAPS is in a region designated as V (least suitable).

SITING AN IN-STATE CELL

Summary

"Top-down" approaches have proved to be expensive and time-consuming.

Incorporating community involvement is beginning to show promise in producing "volunteer host" communities.

BALLFIELDS MANAGEMENT AND STABILIZATION

OBJECTIVES

Restore the Ballfields to accommodate Berkeley community gatherings and recreational activities.

Provide relief to the utility companies.

Begin to respond to Coldwater Creek Panel recommendations to reduce stormflow sediment transport to Coldwater Creek.

BALLFIELDS MANAGEMENT AND STABILIZATION

SOIL VOLUMES

Approximately 2,000 cubic yards of soil contain thorium-230 concentrations exceeding 50 pCi/g.

The remaining 48,000 cubic yards of soil contain thorium-230 in concentrations less than 50 pCi/g.

BALLFIELDS MANAGEMENT AND STABILIZATION

COSTS AND RISKS

Alternative Name	Cost (millions)	Dose (mrem/yr)	
		Ballplayer	Utility worker
1. No action	\$1.5	4.1	5.7
2A. Complete excavation, store at SLAPS	\$8.0	1.1	0.6
2B. Complete excavation, commercial disposal	\$40	1.1	0.6
3. Partial excavation cover	\$7.2	0.8	0.5

BALLFIELDS MANAGEMENT AND STABILIZATION

SCHEDULE

The EE/CA is to be issued for public comment in early March. Comments will be due thirty days after issuance.

Remedial activities can begin during FY 96 with completion possible in FY 97.

SOIL DISPOSAL IN MUNICIPAL/INDUSTRIAL LANDFILL

ISSUES

A large proportion of the soil at the St. Louis Site contains very low levels of radionuclides.

Large quantities of other materials with similar characteristics are currently being disposed of in existing facilities at rates that are very low compared to the out-of-state options currently available to FUSRAP. Most of these materials are known as Naturally Occurring Radioactive Materials (NORM).

Disposal of soil with low levels of radioactivity into an existing landfill may be a key component of an implementable, cost effective site-wide solution at the St. Louis Site.

Federal regulations allow for the disposal of materials with low levels of radioactivity in municipal/industrial landfills using a risk-based rationale.

SOIL DISPOSAL IN MUNICIPAL/INDUSTRIAL LANDFILL

NATIONAL DISPOSAL PRACTICES FOR NORM

Uranium mine overburden is piled and stabilized where it is mined.

Phosphate waste is typically stored in large piles where it is produced. Some of this material is used for agricultural or construction purposes

Coal ash is placed in on-site storage ponds, surface impoundments, and sanitary landfills, as well as being used in road construction, embankments, and in cement aggregates.

Water treatment plant residues are placed in ponds and sanitary landfills, or spread on agricultural soils.

SOIL DISPOSAL IN MUNICIPAL/INDUSTRIAL LANDFILL

POTENTIAL NORM WASTES CURRENTLY GENERATED IN MISSOURI

Coal ash

Oil & gas scale and sludge

Water treatment

Metal mining & processing

The quantities and radioactive contents of the Missouri specific NORM materials have not yet been obtained.

SOIL DISPOSAL IN MUNICIPAL/INDUSTRIAL LANDFILL

OUTSTANDING ISSUES

What are the quantities and radioactive contents of the NORM materials currently requiring disposal in Missouri?

What are the current Missouri disposal practices for these materials?

The Task Force may not want to pursue this issue because the State interprets its regulations to prohibit the disposal FUSRAP materials in municipal/industrial materials.

submitted to the St. Louis
Site Task Force --
by Kay Drey, 2/20/96.

TWO OBSERVATIONS ABOUT THE ST. LOUIS AIRPORT SITE -- and its
suitability for the permanent storage of radioactive waste:

1. from the St. Louis Airport Site Expert Geohydrologic Panel's
Draft Final Report, February 15, 1996:

"The [St. Louis Airport] site is underlain by hydrogeological features that do not meet criteria for the location of a storage or disposal facility for radionuclide wastes. Given that the wastes are already present, it nevertheless is the conclusion of the panel that the site should not be used for the disposal of additional contaminated soil or other waste products. Physical, geological, and hydrological aspects of the site that do not meet present criteria for disposal of wastes include a shallow water table, a flood plain setting, the absence of a continuous and relatively thick confining layer, the presence of limestone that may be karstic in nature, and finally, the accessibility of the site [to people]." (page 9 - emphasis added)

2. from Roger Pryor, Executive Director, Missouri Coalition for the Environment, February 16, 1996:

"If you were looking today for a site to put these wastes, would you put them in a site like this, in the groundwater? Everyone would say no. Just because the wastes happen to be there -- because of naivete or ignorance -- does not absolve today's decision makers of their responsibility to act prudently.

"Leaving it there is the same decision as putting it there."

##

**St. Louis SRAP Site
Remediation Alternatives (Draft)**

	OPTION I	OPTION II	OPTION III	OPTION IV
Objectives	Maintain Existing Conditions	Restricted Access to Land	Release of Land for Limited Reuse	Release of Land for Unrestricted Reuse
Remediation Plan	Maintain Existing Conditions	Provide Institutional Controls to Limit Access and Future Use	Selective Remediation to Reduce Risk	Excavate and Relocate All Contaminated Material
Cleanup Level(s)	Maintain Existing Conditions	Limited Selective Removal (to be defined)	Expanded Selective Removal (to be defined)	Complete Removal to Guidelines
Interim Measures	Maintain Existing Conditions	Provide Institutional Controls	Option II Measures plus Site Improvements (details to be determined)	Option II Measures plus Option III Measures plus Improved Monitoring (details to be determined)
Long Term Management	Institutional Controls; Monitoring; Maintenance; Community Education and Involvement	Less Than Option I	Less Than Option II	None Required

00-1899

Formerly Utilized Sites Remedial Action Program (FUSRAP)

ADMINISTRATIVE RECORD

for the St. Louis Site, Missouri



U.S. Department of Energy

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