BEFORE ST. LOUIS SITE REMEDIATION TASK FORCE

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TRANSCRIPT OF PROCEEDINGS

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TUESDAY MORNING, AUGUST 20, 1996

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BE IT REMEMBERED, that on Tuesday, August 20, 1996, the herein described parties met at the Haselwood Civic Center, Hazelwood, Missouri, and the following proceedings were had, to-wit:

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INDEX

A P P E A R A N C E S:

James Dwyer, Facilitator

MEMBERS OF THE ST. LOUIS REMEDIATION TASK FORCE:

Sally Price, Chair
Anna Ginsburg, Vice-chair
David Adler (ex officio)

Tom Binz, Laclede Gas Company
William Brandes, St. Louis County HazMat Team
Ric Cavanagh, St. Louis County Department of Health
Peggy Hermes, Missouri Coalition for the Environment

George Eberle, Jr., Grace Hill Neighborhood Assoc.
Jack Frauenhoffer, Mallinckrodt Chemical Co.
James Grant, Mallinckrodt Chemincal Co.
Leonard Griggs, Lambert International Airport

Tom Horgan, Congressman James Talent's Office
Donovan Larson, St. Louis County Water Co.
Nancy Lubiewski, member county commission
Tom Manning, City of Hazelwood

Bob Marchant, Metropolitan St. Louis Sewer District
Molly Bunton, for Larry Mooney,
Roger Pryor, Missouri Coalition for the Environment
Conn Roden, St. Louis County Health Department

Ray Rolen, Bridgeton City Council
Paula Livingston-Thomas, for John Ross
Elsa Steward, Missouri Dept. Of Natural Resources
Daniel R. Wall, EPA, Region 7

ALSO PRESENT: Robert Geller and Ron Kucera

TUESDAY MORNING, AUGUST 20, 1996

(In Conference Room:)

(CALL TO ORDER AT 7:45 A.M.)

(APPROVAL OF MINUTES FROM JULY 23, 1996, MEETING.)

THE FACILITATOR: For August 20th there are two people who have signed up to speak today -- Sandy Delcoure and Ed Marr. Is there anyone here who has a desire to speak in the public comment portion of the meeting? So we have Mr. Marr, Tracy Henke and Sandy Delcoure. Why don't we take them in the order in which they signed up.

PUBLIC COMMENT:

MS. DELCOURE: Good morning. My name is Sandy Delcoure and I live on Coldwater Creek. I adopted the creek under a program called Streams for the Future, which is sponsored by the Missouri Department of Conservation and the Conservation Federation of Missouri. Over the years I have tried to promote the awareness of Coldwater Creek, its assets, its problems and its future.

Several years ago I worked for Old St. Ferdinand Shrine in Old Town Florissant. The Shrine is located between Coldwater Creek to its back and Fountain Creek to its front. This location is the site every May of Florissant Valley of Flowers

Celebration where thousands of area residents come to participate in the community event. The area is also used year-round for picnics and other activities.

A couple of weeks ago when I talked to the caretaker of the Shrine, he informed me that the area of the Shrine had totally flooded again after a heavy rainstorm. He said the water overflow from the creek had covered the whole site and was up to the school stairs.

As development in this area continues at a heavy pace, this flooding of creek will only get worse. That is why it is so important for the cleanup of the airport site to be completed. We must ensure the health and safety of the residents in this vicinity with the best possible cleanup of the SLAPS and HISS on Coldwater Creek.

I am concerned about the disturbance of the radioactive waste during the cleanup. I hope the best possible methods are used to prevent air contamination from dust and to prevent further water contamination of the creek from when any digging begins.

Florissant was first settled around 1820 when Old St. Ferninand's Shrine was built on Coldwater Creek. I am submitting two books to the

Task Force on the Shrine and story of Florissant. With the cleanup of radioactive waste from our community, you will be ensuring our future here in this historic area for many years to come. Thank you.

THE FACILITATOR: Thank you, Sandy. Mr. Marr.

MR. MARR: Good morning. My name is Ed Marr. I'm connected with several quack health groups that are interested in water. I am up here this morning with no handouts, just to simply say that I made a mistake. In my last handout, I said there were 2,000 St. Charles County residents that were fed water by the oil field. Well, that's wrong. The latest census figure is 158,000. So I would like to apologize for that.

But I think it's more important to realize that the Department of Energy found that there was some problem with the quarry leakage and going to or going past or going into the Missouri, or whatever it was, they did something about it. Thank you.

THE FACILITATOR: Thank you, Ed. Ms. Henke.

MS. HENKE: Hi. My name is Tracy Henke from Senator Bond's office out of D.C. And I wanted

to (1) let you know what Senator Bond has done regarding this. I don't know if any of you are aware that Senator Bond is aware of this issue.

And one of the first things we did on the energy and water appropriations bill, we contacted Senator Domenici -- as well as the ranking member, Senator Johnson -- who chairs the energy and water appropriations bill for the Senate.

I actually want to read the letter that we wrote to them to them to let them know of our interest in this. And is it starts out by saying:

"Dear Senator Domenici: It is a little know fact that St. Louis City and St. Louis County bear a substantial radioactive waste burden from the Cold War uranium refining operation in the 1940s and 1950s and also from the Manhattan Project uranium operations.

St. Louis is the location of this country's first nuclear weapons site. Unfortunately, the wastes are in the midst of the St. Louis metropolitan area and are for the most part uncontrolled. The waste continues to be moved and spread and there are now more than 100 properties contaminated

above the Department of Energy's cleanup standards.

Except at one site, the owners of these contaminated properties were not Atomic Energy Commission or DOE contractors and did not cause the contamination that exists on their properties. The owners are innocent victims of DOE negligence. For comparison purposes you should know that in St. Louis there are more off-site contaminated properties above DOE's standards than at Rocky Flats, Idaho National Engineering Laboratory, Los Alamos and Sandia combined.

This is all clearly DOE's responsibility. I would like to see some positive steps taken in the fiscal year 1997 Energy and Water Appropriations bill to address this problem. Specifically, I would like to see St. Louis removed for the FUSRAP program line item and established as its own separate line item. In doing this, St. Louis' $17 million existing currently within the FUSRAP core budget should be transferred out of FUSRAP and into the new St. Louis line item. In addition, I would like to request an

increase of $24 million dedicated to the St. Louis cleanup for a total of $41 million in the St. Louis line item.

These two steps will allow the State of Missouri and the citizens of St. Louis to move forward with a cost-effective cleanup of the St. Louis metropolitan area. I know the funding constraints which face your Subcommittee; however, I believe it is imperative that a sufficient appropriation be made to allow an economy of scale during this cleanup period. DOE's activity to date in facing up to its St. Louis responsibility has been tardy and woefully inadequate at best.

Thank you for your consideration, et cetera, et cetera ...

Now, that's the good news to a certain extent. Senator Bond is committed to making certain that we help and we facilitate what the Task Force agrees needs to be done.

Unfortunately, working with the energy and water appropriations bill we did not get the additional funding, we did not get it removed out of the FUSRAP program.

However, what we did get was the following:

The committee realizes that St. Louis City and St. Louis County bear a substantial radioactive waste burden from the Cold War uranium refining operations, et cetera et cetera. Pretty much straight from the letter.

The committee directs the Department of Energy to cooperate with the citizens of St. Louis City and County in moving forward with a cost-effective cleanup of these sites.

The Department is directed to report to the committee on the proposed course of action the Department is pursuing no later than 90 days after enactment of this act.

I am here to (1) like I said, to let you know that Senator Bond is very much aware of the situation of the Task Force and we want to make certain that we help in any way that we can. And since I'm out of Washington and can't get back on a regular basis, David O'Brien from the senator's St. Louis office or somebody from the St. Louis office, will be starting to attend on a regular basis. And we hope to work with you in accomplishing the objective of the Task Force and accomplishing

cost-effective cleanup of the area.

So if anybody has any questions throughout that I might be able to answer, I will be happy to do so.

THE FACILITATOR: Well, let's see. Are there any questions at this point for Tracy? Yes, Roger.

MR. PRYOR: Could we get a copy of the letter?

MS. HENKE: I don't know if you have a copy machine but you are welcome to copy both items.

THE FACILITATOR: We would like to do that so that we may get them into the record. Thank you very much.

MR. HORGAN: In following Ms. Henke, I just wanted to let the Task Force know that Congressman Talent last week sent a letter to Undersecretary Thomas Grumbly in Washington, DOE, and he's asking the DOE to prioritize and make the St. Louis SLAP site the No. 1 priority and requested an overall amount of approximately 40 million in their budget for a full cleanup at the request of the Task Force.

He has also sent this letter, in addition to the Task Force, on behalf of County Executive Westfall and Mayor Freeman Bosley. The DOE would

have to prioritize this, I believe, and make this happen. I do believe the window of opportunity in terms of FY 97 in the House side has past, there were some efforts but it was not -- it is unfortunate that they were not able get that.

I just wanted to let you know that he sent a letter requesting additional funding in response to the resolution that the Task Force passed.

THE CHAIR: I also have a copy of that letter if we could, again, have copies made.

THE FACILITATOR: So is there any followup then to any of the public comment? All right.

DISCUSSION ON INITIAL DRAFT REPORT:

THE FACILITATOR: We move then to the heart of today's agenda which is the discussion on the initial draft report. Sally and I spoke at some length last night and Anna and I had spoken late in the afternoon yesterday and collectively I think we've settled on an approach that I'd like to lay out for you and see what your reaction is.

First of all, given the schedule that we have adopted which if we go to the back end of it, the final event is scheduled for September 24 when we are to present in some way or another our final report to the Department of Energy.

And we had scheduled our regularly scheduled September meeting for the seventeenth and it was thought at that point -- and still is thought -- that we would be incorporating public comment into whatever the final draft looks like at that point.

So the theory is the Task Force would have developed its report to the best of its ability, we would put that out to the public. And depending on what the public comment is, then on the seventeenth of September those comments would be somehow integrated into the final report.

In order to do that there has to be an opportunity for the public to comment. We had been talking about September 10, we're now thinking that perhaps the twelfth of September would be better. In part, because it would give us two extra days to be ready for that meeting and it would give us two more days to alert the public to that event and hopefully, therefore, improve the attendance.

And there was a third factor that I've forgotten now but the point is -- I know. There were some people on the Task Force who were not going to be able to be at the meeting on the tenth but who could be there on the twelfth. So that is one new

notion that I would like you to consider and would like to come to closure on that before we walk out of here today.

The other new notion that evolved last night was that in order to accomplish everything we have to do in order to get a report out to the public timely, and given the fact that you are looking at revised draft for the first time this morning, it was agreed last night that it would be a good idea for us to meet again a week from today in this room, assuming it's available.

Only three of us talked about this, we haven't checked into the availability of the room, but we felt it was essential to schedule another meeting and to allow some time for the Task Force to react to this draft and for comments to the draft to be incorporated into a revised document that presumably would be adopted by the Task Force next Tuesday -- discussed and adopted. So that's the other major concept.

In order to do that what we have to do is decide how we're going to approach this document that is before you. And the notion that I discussed with the Chair and Vice-chair last night was simply that I would ask that when you leave here today that you

take the document with you and address it as quickly as possible, develop your questions or comments or responses, whatever they may be, in the next forty-eight hours, by the end of the day Thursday, so that we would then have Friday, Saturday, Sunday and Monday to incorporate those responses into what hopefully will be the final version of this document.

If there aren't many, and we can get them done in one day, then we can get that document out to you so that you have a day or two to review it before you come to the Tuesday meeting. If there are lots of comments or people are slow getting them in, then we will be in a situation similar to the one that we're in today -- where you will have a document in front of you for the first time Tuesday morning. We would like to try and avoid that.

So any questions or reactions to anything I've just said?

THE CHAIR: Before any questions, I would just like to elaborate a little bit on what you said. The reason for having a meeting next week may not be clear.

I've always felt that they we should never submit this report -- I don't how we can submit the report to the public without this Task Force sitting

down and all of us agreeing to the document that we see before us.

Today the document we see before us is not final. For it to go to the public from this point in time, following some revisions over the next few days, leaves me very uncomfortable. All of you might feel that way, so I thought the only way to handle it would be to try to get it as perfectly finished as we can and sign off on it next week.

I know everyone is busy and I know this is last minute but, you know, we are trying to stick to our schedule of delivering the report on the twenty-fourth of September. And we have to allow two weeks prior to the public meeting for the document to be given to the stakeholders and other members of the public, so it forces us to mail the middle of next week at the very latest. So maybe that helps clear it up for all of you.

THE FACILITATOR: So is everybody comfortable then with the notion of meeting again a week from today and following the outline that I have offered? No objections.

One thing I didn't say is that there are also a couple loose ends that we need to pull together just so that we've got everything buttoned

up at the time we have a final report and we would intend to cover those next week as well.

One of them is on today's agenda, that's the report of the Communications Working Group. If we're going to meet next Tuesday it isn't essential that we deal with that today. We can deal with it I think more effectively next week and thereby have more time for discussion today on whatever seems to interest us most.

MR. LARSON: Jim, quick question. Are you just saying now then that we will not discuss this report any further until next week?

THE FACILITATOR: No. No, I'm not saying that.

MR. LARSON: Okay.

THE FACILITATOR: All I'm saying, unless somebody disagrees, we won't deal with the Communications Working Group aspect of it today which mainly has to do with the distribution of the report.

MR. LARSON: I think it would be valuable to at least spend a few minutes just kind of walking through the document since you were one of the major authors.

THE FACILITATOR: We're on our way to that right now.

MR. LARSON: Okay.

THE FACILITATOR: What Sally has asked me to do, and I agreed it's the right approach, is to give you a brief summary of how we got to this point, what has gone on since we all met a month ago and what you have in front of you.

You will recall that when we met last month it was my obligation to get to you by the end of July an initial draft of a report for you to do with as you please. I wound up getting that out on August 2.

And the request was that you feed your responses back as quickly as possible and at that point I think it was a little unclear, I think we were just planning to come back together today to sort our respective thoughts about that initial draft.

It became apparent to me shortly after the July meeting that we would be far better off if we had a revised document by now so that we had incorporated everybody's comments.

Two things happened then. There was a group of people, perhaps a dozen, who responded in various ways. Some of you did it on the telephone, some of you did it by calling and then following up

in writing, but in one way or another you communicated thoughts to me that wound being integrated into a revised version of my initial draft.

I'm going to circulate all of this in a minute, so that you will all have a complete package.

In addition to your comments that were incorporated into the draft -- and they're in italics here and there are arrows pointing to them, they ought to be easy to pull out. In addition to that we're are going to distribute a packet of written documents that came from a wide variety of sources which also have influenced the revised document.

This package was just produced early this morning. It includes a half a dozen or more documents. I think it is important that you read those and see what people had on their minds and then compare those documents with the updated draft to ensure that everyone's interests have been covered adequately.

While that was going on there was a group of major stakeholders from around this table who put their heads together to develop a collective response to the initial draft. This past weekend I worked

with the people who are responsible for collecting those thoughts. And when I say major stakeholders I'm talking about the County, the City, the State, the Chair and Mallinckrodt. I think those are the five major sources of input into that effort.

THE CHAIR: And George Eberle.

THE FACILITATOR: And George Eberle. So there were six sources of information that were pulled together into a draft document and over this past weekend the two drafts were integrated and that's what you have in front you.

This should not be considered a final document yet. To my knowledge nobody except the author of it, or the person who is responsible for pulling it all together and getting it printed has seen it, so it's subject to review by everyone.

It is entirely possible that some things that are important to people somehow didn't get in here, we may have missed something. There may be some things that we didn't miss but didn't treat adequately or to your satisfaction.

All of that is open to review and discussion and therefore it's of critical importance that you deal with this document as quickly as you can, make sure it does what you want it to do, and

react in whatever way seems approximate as quickly as possible.

That I think brings you how we got to where we are today. Ric Cavanagh I think is going to walk us through the document.

MR. CAVANAGH: I, at least, want to make some introductory comments. As Jim has been stressing this is a not a final draft. In fact, as you tell just from the layout I tried to save some trees last night in the copying so we didn't do two-sided. Obviously, the layout will be a little bit better from that perspective.

But just a couple of points I'd like to make and then however we chose to walk through it. But I did want a stress again that both the city and the county participated in the drafting of this and strongly support, you know, this approach.

I want to thank Jim, it was very helpful for all of us. In many cases when you get to this type of a report, it's kind of a situation that you don't know what you want until you don't necessarily get it and then you say, well, we could do this and that and so forth, so it gave us a starting point.

The sense of the group that did work on this was that we needed a document that was (1)

perhaps more persuasive, if you will. Since we're going to be dealing in the political arena, we need something that speaks to the points rather quickly since many of the people who might be reading this document may be rather busy and we need to get to the point, have an executive summary that is strong, makes the case, and gets out and then supports it with appendices and so forth.

So we've tried to develop a document like that. We were also mindful to articulate as many justifications as possible for our particular needs so hopefully this gets somewhat reflected in this document.

There are a couple missing pieces even within this. It's bound only because it was easier than trying to find seventy-five clips to hold it together and have paper all over the floor. Somehow when you bind something it gives it a sense of being final, but it very much is a draft. But there are a few appendices and so forth that may still need to be added and we recognize that. Jim I know has some other comments and summaries from working groups that may need to be included.

So again, strongest point I want to make is that a lot of folks have really done a lot of talking

over the last several weeks and a lot of work has gone into this. If you love it, I'll take credit for it, but I did not personally draft every word on it. But I think it's a good starting point, and I would hope as we work through it, talk through it, get input at this meeting, we can build that into some form of a final draft.

THE FACILITATOR: Within one week's time, that's the key.

MR. CAVANAGH: A piece of cake.

THE FACILITATOR: What I didn't say, and I've just been operating on this assumption for the last few weeks, but I think it's important that you all understand it.

There was a very strong emphasis from a number of sources immediately following the July Task Force meeting that we adhere to our schedule for a variety of reasons but that we really not allow the schedule to slip. And that's why the pressure is so intense right now.

We're trying to integrate two years worth of work into a cohesive document that tells a story, tells it effectively, and does it on schedule. And that's why we're asking you to react in forty-eight hours and that's why we're asking you to come

together again next week.

MR. CAVANAGH: If I could just add, I think we have a tremendous opportunity here. We really do have bipartisan support on this, people are not knocking heads, rather we are very much in agreement that this is the direction we need to be moving in and, you know, now is the time to do it.

So, Sally, I don't know how you wish to proceed.

THE CHAIR: Well, obviously I haven't read the new version. Peggy, did you have a question?

MS. HERMES: Yes, a quick question. I certainly don't want to suggest that these meetings go on any longer than they have to but if Fiscal Year 97 is no longer a question, is the schedule as crucial as it was two weeks ago?

THE FACILITATOR: Who would like to respond?

MS. GINSBURG: My understanding is that Fiscal Year 97 is not a done deal, that there will be a conference committee looking at the energy and water budget, and maybe Tracy has more information about this, but that there is still room for some change.

MS. HERMES: Yes. Fiscal Year 1997

appropriations bill do not go into effect until October. And then once it goes to the president to sign, they don't go into effect until October.

Energy and water appropriations conference will probably occur relatively fast, sometime around the beginning of September and it will probably be sent to the president sometime probably in the first two weeks. But Senator Bond probably would encourage you to stick to the deadline because that also will add credence to the DOE responding in the time frame that we have set in the bill.

THE CHAIR: Yes, I think we still need to stay on the schedule we have.

MS. HERMES: And I could be wrong but my understanding is that decisions have not been made in the House, it sounds like they have been in the Senate.

MS. HERMES: The House has already passed the energy and water bill as well. But the two bills, energy and water, operate very differently this year. Normally the House passes the bill and sends it to the Senate and we take up the House bill and change it. This year each house passed its own pretty much simultaneously and so the conference could be a little different. I haven't spent a whole

lot of time looking at the House bill to see how much different it is.

THE CHAIR: Okay. Any other questions? At this point I guess we are wanting to be walked through this report and I glanced at it and I recognize much of it but I still feel like I haven't read what is in front me and I don't know that anyone can speak to it definitively but I can say the first twelve pages is more or less an executive-type summary review.

The first page is specifically the executive summary and then there's an introduction and the following ten pages are a more upfront, straightforward statement about our problem and how we wish to see it resolved. And I feel it's pretty self-explanatory. It talks about the Task Force process. Page 9 gets into factors affecting the recommendations. Page 11 is the conclusion and recommendations. The appendices are in the back and the site history from MDNR.

How this differs is just that its more concisely and more strongly speaks to our problem and the language is just more powerful. But it also gives a little more of a bulleted item-by-item reason for our views and our conclusions, which I think was

not too clear in the first draft. So it's pretty easy. And if anyone has any suggestions --

MR. CAVANAGH: I think in particular page 9 section 4, the factors affecting the recommendations, again a series of bullet point but trying to make the case, but I would urge everybody to pay attention to that to see if that does accurately reflect the Task Force's position. And then the following pages likewise with our conclusions, just trying to be as concise as possible. And again, the appendices will support a lot of what's being stated but typically I believe a document like this is again one that someone will scan more than perhaps read every last word in detail and that's why we've opted to have some pictures, charts, graphs -- you know, the visual as well as the narrative.

THE FACILITATOR: There is a question that has been going around the room since the first people arrived this morning and that is what is the appropriate distribution of this document at this point. There are a number of people who are not at the table but who are interested in one way or another in this report who have requested that they be given copies of it and I have asked them to wait until the process determines today what the

distribution ought to be. I think perhaps that questions needs to be answered.

Does anyone have a sense? I mean the two choices are that this is a draft document that the Task Force hasn't looked at yet so it really doesn't represent anyone's conclusions necessarily. On the other hand, it certainly is the product of a lot of hard work and it does represent the sense of direction that has been established.

MR. LARSON: Well, I would comment that since the public is going to be asked to respond to a final document in the public hearing and we would not want the public to have two documents and try to understand which is the one to take seriously.

I would say we should limit distribution of it. Although, you know, if there's some obvious need to see the thing certainly it shouldn't be kept secret either. I would say distribute it on an as-needed basis beyond the group but make it clearly marked subject to change.

And I have two comments about the document itself. As long as I have the floor, may I just continue. In a quick review of it, I notice two things. I notice that there is a not a lot of description of the Task Force efforts.

Now, you know, it's not a concern about self-aggrandizement that causes me to comment but after all there was a lot work that some people in this group did that ought to have some effect on validity of the public input and the public reaching conclusions in this whole process. And in glancing through it, I don't see much comment on, you know, some of the efforts that were made, some of the smaller groups, work that they did and the goals that they reached.

Now, true some of those goals were a little mushy, you might say, but that is to say their conclusions were not rock-solid, nuts-and-bolts type of conclusions sometimes. But on the other hand we, for example, reached some pretty serious conclusions about the way we understood these properties to look upon completion of the remediation work. And so I ask about that because certainly the authors could share their thoughts about that.

The other thing, there is not much that I was able to see here with regard to -- I'm sorry, there's no comment that I can see here with regard to that expert panel that we put together. Perhaps it's listed here and I don't know see it.

So, if you could comment on those two

things.

THE FACILITATOR: Anna?

MS. GINSBURG: I want to speak to the distribution issue. As a public body I don't see how we can limit distribution of this report. I think which need to make it real clear that this is a draft and that it's a work in progress and that things may change in the final version. But I have a real problem with limited distribution.

THE FACILITATOR: Well, that obviously is the issue. And, of course, this is a community issue and we've been approaching this from a community-based point of view and there are clearly lots of people with legitimate interests in knowing where the Task Force thinks it stands after almost two years of work.

MR. GRIGGS: It ought to be exactly like an environmental impact statement. A draft can be placed in libraries where people can look at it.

THE FACILITATOR: Well this document, this bound document has the word "draft" once that I see, twice, on the inside of the front cover. The pages themselves are not marked as drafts, but certainly the record is clear as of this point. I mean, we've said it now three or four times -- it is a draft.

MS. LUBIEWSKI: This is a draft that was put together by the city and county?

THE FACILITATOR: No, it is a compilation of three things -- the draft that I prepared a couple of weeks ago, the comments that I received from a number people, including you, whether in writing or orally, are integrated in here and the third component is work that was done by this group that I described earlier. And all of that presumably, if we did our job well, all of that was integrated into a single document over the weekend.

MS. LUBIEWSKI: But this was not what we had planned on doing at the last meeting, you were not going to call those people together to work on this so this is not really from the Task Force.

THE FACILITATOR: Well, no.

MS. LUBIEWSKI: Therefore if we give this out as a Task Force draft document, we are misleading.

THE FACILITATOR: There are some subtle points in there.

MS. LUBIEWSKI: I don't want it to go out until we get to look at ourselves before we say that this come from me. It doesn't come from me, not all of it.

THE FACILITATOR: Well, you're not even in a position to know whether it came from you because you haven't had a chance to look at it.

MS. LUBIEWSKI: Right. Well, the meeting that was had I didn't even have an opportunity to attend.

THE FACILITATOR: Right. Let me address that meeting for moment. There was a suggestion made at the July Task Force meeting and I think it had come up perhaps in the June meeting as well that once the initial draft was generated maybe it would make sense for there to be a working group of whomever, whoever was interested from the Task Force, get together and refine that initial document.

MS. LUBIEWSKI: But that was a maybe.

THE FACILITATOR: That's right. I did allude to it in the cover memo that went out with the first draft. I said that it had been suggested that this might be a good idea, let's reserve judgment on it until after you've taken a look.

And it turned out that there was a group of people who wanted to proceed in that way. It was very short notice about that. The decision was made one day and the meeting was the next day and we got notices out as fast we could.

MS. LUBIEWSKI: I don't have a problem with the way it was done. I have a problem with -- if we give this out as a draft document from the Task Force, I have a problem with that.

THE FACILITATOR: Okay. Well, you should know that the media are represented today and so let's say it clearly once again for everyone's benefit in the room, this is a draft document which is subject to modification between now and a week from today. And if we stick to our schedule and do everything well, one week from today we will have a document that we expect to be able to sign off on and that we hopefully will have a broad consensus support for it. We're not there yet.

MR. PRYOR: Well, a number of things. Starting with Nancy's comment. You know, not having read this obviously but based on how you described this was put together it seems that this may be more of draft of the Task Force than the original one was, which was your draft. I mean, Nancy is asking which draft has more validity and I don't know if either one has any claim to that, but more hands have gone into this one.

THE FACILITATOR: Well, I would say that almost all hands have gone into the production of

this document.

MR. PRYOR: Right.

THE FACILITATOR: And without having read it, so I'm taking a flyer here, I would have to say -- my expectation is that this is a much richer document. There could still be debates about the sequence of presentation, the order of presentation. There might be all sorts refinements that we will find and adopt. But I think it is a far advanced version of what you saw on August 2nd.

MR. PRYOR: Well, let me speak to the issue then about distribution because -- and you may be surprised to hear what I say on this because I may come down on the side different than what you might expect. But I consider this to be a draft for our use, that we want to make sure clearly represents what we think so that we get it out to the public, and they review it, that they're going to be reviewing what we've all agreed represents what we as a Task Force think.

When a draft EIS is put out to the public. This is not non EIS, first of all, but when a draft EIS is put out that is put out as a document of an agency representing that agency's thinking and processes as to how they reached their decisions and

put before the public as a full-disclosure document for the public to look at. We're not at that stage yet.

I don't think there's anything in secret in here. I think probably the worse that could out with people looking at this thing would be they'd say my god, they have not organized themselves very well yet, it's not a complete document, the typing doesn't match, the word illustrations -- you know, all that sort of stuff. It's not a very attractive piece of work at this point.

I would feel more comfortable if we distributed it to people if it had clearly stamped every page like some documents do -- Draft, Working Document. I worry about the fact that that only appears in one place. It would be very easy for some to get this and excerpt part of it and say this is the final thing.

On the other hand, I have no problem if people are here at this meeting today would like to look at one while we're talking about it, but I guess maybe the one possibility then would be to collect them at the end meeting.

I think the danger would be -- I'd hate to see it just fall in someone's hands who hasn't sat

here and listened to us say this is a draft, this is a draft, this is a draft and look at that and draw undue conclusion from it without the benefit of hearing what we're saying. But I have no problem sharing this the folks who are here today so they can at least read along and try to figure out what we're trying to do.

THE FACILITATOR: Well, you're echoing Nancy's conclusion then.

MR. PRYOR: Yeah.

MR. FRAUENHOFFER: I guess it was a followup to what Donovan had asked before. I notice in the appendices that it shows the sections "E" through "I" and they're not in this particular report. Was it the intent to add those later?

MR. CAVANAGH: Right. As I indicated there are some things that are not available at this point but, yes, they would be added.

MR. FRAUENHOFFER: Was it the intent to add those as they were in the original report then?

THE FACILITATOR: You're ahead of me, but it was my impression that they were going to be incorporated into this document that you have in front of you.

MR. FRAUENHOFFER: As they were in the

original?

THE FACILITATOR: Well no. Well they were modified in two ways. They were modified by input from all sorts of people and then they were modified again in a long meeting that occurred this past Sunday but they were left on the table along with all other documents. It was my impression that they were going to be in this bound document so that what you would be looking today had all the appendices.

MR. FRAUENHOFFER: Okay, that's my point. We don't have them and we don't have an idea of what their content is at this point.

THE FACILITATOR: I did not know that until you pointed it out. These documents were printed late -- they arrived here at seven o'clock this morning, that's the first anybody has seen them, so there was no opportunity to check.

MR. PRYOR: This addresses, I think, Donovan's concern about showing the scope of whatever it is we've been doing that's gone in to this. I'll just throw this out, would it be feasible as one on the appendices to include the minutes of the meetings. We've published rather extensive minutes that reflect, for the most part, very accurately the discussions and everything that's gone on, who was

there, what was said, what was concluded and I can't imagine anybody in their right mind who wasn't there wanting to read those but I think they would certainly present a prima facia case just by bulk alone that a lot of work went into this and it would be a good record to have -- made a permanent part of this.

THE FACILITATOR: That was the whole point behind -- well, not the whole point but it was a large part of what was behind the initial draft that I prepared -- the summaries of all of those working groups, an explanation of who participated, what the mission was, what the process was and what the recommendations to the Task Force were. It all exists.

To reproduce the minutes is -- it's just a practical question. I have thirteen, four-inch three-ring binders with documents that I've accumulated over the last two years. I don't think we want to do that. And if we narrowed it down to -- even if it were just the Task Force minutes, then we have twenty-two of those. We could certainly do that if you think there's value in it. Or we could simply refer to them and anybody who was really interested would be directed to several places where they could

be found.

MR. PRYOR: Do we have highlights like this of most of the meetings?

THE FACILITATOR: No. We do have highlights that were developed for a different reason. They were to keep the public generally aware of what was going on. They were not comprehensive. They have been expanded a little in the last two months.

MR. PRYOR: Maybe it is a problem of volume but it seems to me there's some way of -- it may take some work, and I hate to suggest it, but someone going in and maybe summarizing each meeting somehow on a page, something to reflect a history of what happened.

Again, I'm just speaking to Donovan's concern and I think it's a legitimate concern. You know, one of the things we were worried about in this whole thing was that recommendations once we've reached them would be the result of a deliberative process that would give the recommendation some weight.

THE FACILITATOR: Well, I couldn't agree with you more about that point, that the process is as an important a part of this as the conclusions.

MS. GINSBURG: What about putting a page in the final document that says that the meeting minutes are available upon request?

THE FACILITATOR: I'm perfectly comfortable with that. I think, though, it goes back to Jack's observation about what are these appendices and how much do they say and do they do the job adequately for purposes of the report. And you have those. I mean, each of you was given an initial draft and each of you has now been given excerpts from that draft with italicized changes.

So you have the tools to make a judgment about whether you think those documents are adequate. It's too bad they're not in this bound volume but nevertheless they do exist and they're in your possession. Any other comments?

MR. CAVANAGH: I think it's important for us to keep a focus on what we are trying to accomplish with this report. I appreciate what you're saying, Roger, but trying to compile and go through documentation of all that went on is probably only two hours shy of the history of the world. You know, it really is a very, very lengthy task if we were to do that.

And again, I think we're searching for a

legal opinion. And I'm not a lawyer but having worked now in the public sector a long time, I would agree with Anna -- we are a public forum. And to be very honest, from experience, if we don't hand out the documents, people are going to get them anyway, -- why worry about it. But I do believe that, you know, we stress the draft nature of this is very important.

But most importantly, my point is we are trying to, you know, have a summary report of our findings and recommendations and I think that should be the criteria that we use to evaluate a document rather than, you know, trying to cover every last possible base.

THE FACILITATOR: Let's see if we can come to closer on what we want to do right now. If we want to reserve judgment on it, that's closer for moment as far as I'm concerned.

MR. LARSON: A half an hour ago I mentioned two points -- one is that this doesn't right now reflect in any way a lot of the work that we did in the small groups. And just putting it in an appendix won't quite draw the spotlight to what I think is a substantial or significant part of the whole effort of this FUSRAP group over the last two years.

I not suggesting that I know the right way to do it, but one way or another I would like to see something included that illustrates the level of work we did and pretty much the general thrust of what the more active subgroups did, which may be would be enough to satisfy Roger's concerns -- maybe not -- but certainly would be enough to make me feel more comfortable that this not only reflects a history from the time old Mr. Einstein wrote the letter to the time this became a community concern but that it also reflects what has happened in the last two years.

THE FACILITATOR: Is there any disagreement on that point? Okay. Then that was really what was intended, or I thought was for today's purposes. It certainly still is my intention. We will integrate that information. We will make sure that it is sufficiently prominent in position and always to articulate effectively what went on here for two years and how we got to the conclusions.

THE CHAIR: Okay. You're talking about basically your report, what you wrote about the working groups would be incorporated as an appendix, is that what you're saying?

THE FACILITATOR: Well, the question of

whether it's an appendix is the issue that Donovan just raised, where it fits into the document --

THE CHAIR: Right.

THE FACILITATOR: -- but the content, or the document itself is exactly that as modified by the comments that people have fed in.

THE CHAIR: Okay.

THE FACILITATOR: And still subject to modification between now and next week.

THE CHAIR: Okay. As far as the distribution issue I feel like we should distribute but I agree with Roger, and I know it will be time consuming, but I think we need to stamp every single page for whoever wants a copy and let them have it. And that that would be something that couldn't be copied without, you know, the draft copy being prominent on the page.

Although it says on the inside cover please do not cite or quote, that's just one page and I am concerned about the same things -- I am comfortable with this document pretty much. You know, I know what is it. But for those who weren't part of the group that helped to rework this, I am sensitive to how they feel, but as Anna said, it's a public document.

For those of you who aren't comfortable with it going out, would it be more comfortable for you if you knew that each page would have draft stamped on it?

THE FACILITATOR: I see a lot of yeses. Does that work for everybody? Okay. I don't know how we'll get that done, but we'll --

THE CHAIR: We'll get it done.

THE FACILITATOR: I'm asking then everybody around the table, I don't know who already has a copy, I suspect that some of you do. You've heard what Sally has just said. We would like, therefore, to mark each of the documents "Draft" before anything leaves this room other than in the hands of Task Force participants. So we would appreciate your cooperation on that front, any of you who are interested in walking out of here with the document.

Okay. Let's move on. Anything more to be said at this point about the draft report and how we're going to get to a final one? Let's move on. As I've already suggested, unless there is objection we will deal with the Communications Working Group issues next week and we'll move to the Technologies Working Group. Jim Grant is going to present a draft report and we're going to distribute printed copies

of it.

TECHNOLOGIES WORKING GROUP DRAFT REPORT:

MR. GRANT: Can everybody hear me okay? If I drop off, let me know and I'll get the mike.

As far as the Technologies Working Group has sort of set the stage, obviously the key technology that was being looked at was dig soil up and send it some place. And the key goal or purpose of this group was to take a look at alternative technologies, i.e., treatment do see if there was anything that could be effective that we would recommend to the DOE to carry forward on.

And as I go through some comments, you'll see here that tends to focus on -- if you're going to obviously reduce cost was a concept, you're going to reduce volume to do that, to try to reduce cost. So that's how we got into this. So we're assuming the basis of the hog and haul type systems.

What I have here are slides which cover the document that you are receiving. I'm just make some points about it. There's a lot attachments to that document, but basically we tried to go through a review process where we identified technologies and we relied a lot on previous work the DOE had done or SAIC had done, but also on input from members of the

working group.

We tried to evaluate or look at those technologies in terms of focusing on those that would be most useful, particularly in terms of cost savings, and this got down to some type of soil washing technique or vitrification technique. And we looked at for initial screening, we tried to look at effectiveness, implement stability and cost as some of the key criteria overall.

And, as I said, we look really soil washing and ex-situ vitrification. There's some key points I want to make here. When we started out the SAIC had already done work on soil washing and a number of us had an opportunity to visit their laboratory at Clemson, get the study and work they had done.

But it became clear that -- all the work had been done in soils taken from the airport site, SLAPS. It also became clear that it really wasn't economically feasible to do either chemical or physical soil washing on soils from SLAPS. But there was a possibility that something could be done for soils at the downtown site because the soil conditions were different.

So one of thoughts we had was we at least ought to do some preliminary work on the physical

soil washing for soils at the downtown site at least to clarify whether we ought to go ahead with that. Some type of particle size analysis or take a look at the heterogeneity of the soils down there to see if they sort of fit together and see if some further bench test or work should be done.

As far as the ex-situ microwave vitrification, we got data from vendors and consultants working in this area and took that and put together cost estimates to see if there were any key cost savings. Unfortunately, we did not see significant cost savings but the costs were somewhat close between digging and hauling and vitrification and has been pointed out there are some other benefits like stabilization and volume reduction that are a benefit this technology overall.

So coming out of the task group, we had a number of recommendations. The first one here was really to go ahead and recommend to the DOE that we want to continue to take a look at ex-situ microwave vitrification and the physical soil washing at least for the downtown site were one focus of that. So we want to go ahead and take a closer look at these and perhaps if possibly move ahead with them.

Also, on the overall evaluation there were

a couple of analytical technologies, field technologies, that were brought forth that could serve to reduce characterization cost in the field, laser ablation and nebulization spectroscopy and then mobile gamma ray spectroscopy. So we're recommending that these things be evaluated and be used in the further work at the sites.

And then during the course of our discussion, we developed some criteria that we thought would be useful in evaluating future technologies. As time goes on, other technologies may become further developed. It may be possible in the future that they would have a place to be used in the St. Louis sites so we developed some criteria that we thought would be useful in evaluating these criteria for their selection. And although cost was an issue that we focused on, there are other criteria like stability final waste form, these type of things which would be important in evaluating the technology.

So those are the key outcomes I think of the work group's report. Attach to the report are a number of things, cost estimate and other things. We talked about some other documents to support this.

Now, at the last task force meeting I-

mentioned some of the recommendations. The ones I stated were altered somewhat. I got comments back from the Technologies Working Group members and I tried to incorporate their comments into this report. Unfortunately because of the time frame, we didn't have a chance to get together and sit down and maybe haggle through some of the language, so if there are any other of the work group members here that would like to make some comments about what I've presented today in this report, if they have some things they would like to add to it or whatever, I really ask that they take this opportunity to do so.

THE FACILITATOR: Okay. Are there any comments from any member of the Technologies Working Group about this draft report?

MR. LARSON: Two quick questions, Jim. Could you just give us a feel for, number one, in the case of soil separation technology what's the ultimate goal. And the reason I ask is that I'm not sure if the significance of it is that, you know, larger soil particles are the ones that have radioactive characteristics adherent to it or if the smaller ones are -- what is the connection between next size differentiation in concentrating the radioactive waste?

MR. GRANT: Well, I think one of the concerns that was expressed by people in group -- there were two ways of doing soil washing, okay. One is the physical and one is the chemical. There were a lot of concerns about the chemical technology particularly in terms of the use of chelating agents. So I think we pushed that aside and said we're not going to recommend the use of that and the costs don't bear it out either.

On the other hand the physical soil washing would be along the lines you're saying, the idea would be that the radioactive materials would be concentrated in certain particles would be there as particles and they would be denser than other soil particles and therefore you would be able to make some type of gravity separation.

MR. LARSON: And in that technology, the volume reduction you're looking at is something of the order 10-20 percent or 80-90 percent?

MR. GRANT: Well, I think you'd have to be looking more for an 80-90 percent reduction, a significant reduction.

MR. LARSON: Okay.

MR. GRANT: Obviously it costs money to develop the technology, to buy the equipment and

operate it and so you've got to be looking for a fairly significant reduction in volume before you can get a return --

MR. LARSON: Right. I just wanted to clarify those points.

MR. GRANT: So you need a significant reduction in volume.

MR. LARSON: Okay. The other question is, just a real dumb question, in the ex-situ microwave vitrification you would be -- well, my concept is a matrix of materials that are interlocked to each other so that there's no migration of the materials in later storage situations. Is that the significance of that technology?

MR. GRANT: Well no, there's a couple of things. One is there is a very volume reduction, okay, and it's been stated that volume reduction could be as much as 50 percent. So that's a significant reduction. We don't have a lot data supporting that, but if you could achieve that reduction, that a significant volume reduction, and what you get then is a reduction in transportation and disposal costs, okay. But you do have the tight matrix you're talking about. You're basically fusing all the materials together. I think that you're

basically fritting glass is what you're doing.

MR. LARSON: Right.

MR. GRANT: So it's very tight and so you're significantly reducing the solubility or potential for release of radioactive material so that is a benefit for going through the vitrification.

MR. LARSON: Okay, thank you.

THE FACILITATOR: Any other questions?

MR. CAVANAGH: This is extremely basic, you've helped a little bit, but for those of us who really don't understand the technology, can you explain what it means to do soil washing? I mean from the point you're looking at the soil to --

MR. GRANT: Well, it perhaps could be done equipment-wise in different ways. But it could be as simple as taking the soil material you're working with, slurring it up and then allowing in some manner the particles -- certain heavier particles would separate, settle out faster, heads towards the bottom due to gravity separation. The lighter particles wouldn't settle as quickly. Then you could use that as a basis then -- depending on the equipment -- you would be removing material from the bottom where you would have the heavier material and perhaps filtering it out then you would have your radioactive materials

concentrated there.

MR. CAVANAGH: And this is a proven technology at this point? I realize defining proven is another story.

MR. GRANT: Yes. It's a technology that has been used a lot in the mining industry and other places. So there's a lot experience and background in it, but again as we've seen from the work that was done on the material, the soils at the airport site, it didn't prove to be feasible from a cost point of view. So you've got to apply it to the right type of soils. The soils at the airport site had a high level of clay which means you don't have a possibility of getting the separation to occur the way you want it to.

MS. GINSBURG: Jim, I think some of us back here are having trouble hearing.

MR. CAVANAGH: Why don't you use the mike.

MR. GRANT: The soils at the airport site had a high level of clay in them so that inhibited the chemical extraction ability and inhibited the ability to make this physical separation. One of issues about the soils at the downtown site is that it's fill and ash, so you may have a possibility there of applying the soil washing even though it

wasn't successful at the airport site.

But again, you'd have to go in and maybe take a look at the particle size. I think it's also been pointed out that since it is fill, it's a very heterogeneous material. You may have some soils here with clay over here, you may have bricks and rocks over here and you may have ash here and so you would really have to take a look at that and see if the predominate make up of the fill was such that it could be treated also based upon any testing that was done.

So I'm not reporting that we would know in advance that this would be successful with the materials and soils at the downtown site, just that they are different and might lend themselves to the technology -- the physical soil washing.

THE FACILITATOR: It's interesting. When you asked your question, there were a bunch of smiles among the technical types in the back wondering how is Jim going to answer this question.

MR. GRANT: Well, you know, if anybody back there wants to add to that, correct me, or add some additional comments, feel free to do so.

THE FACILITATOR: Dave Miller, do you have something to add?

MR. MILLER: Just briefly, yes. I just wanted to distinguish between success and being able to achieve the cleanup threshold which the chemical treatment process actually did. It wasn't successful in the sense that it was cost effective. And that gave some hope to the fact that perhaps that at the Mallinckrodt site with the differences in the physical and chemical properties that that process, soil sorting or soil separation process, might have some hope down there as opposed to the SLAPS site.

So it was successful in the sense that the cleanup goals were achieved. It wasn't successful in the sense that it was cost effective.

THE FACILITATOR: Any other comments or questions about the Technologies Working Group draft report at this point? Okay.

There was at last month's meeting a request that there be an opportunity for a presentation on microwave vitrification as a potential process to be used in St. Louis. It was Ric Cavanagh's request and there is time on the agenda today for that presentation. Who is prepared to do that? Please introduce yourself and carry on.

PRESENTATION ON MICROWAVE VITRIFICATION:

MR. GOLDEN: Good morning. I'm Jeff -

Golden. I'm with a company called Clean Earth Technologies. We've established this company here in St. Louis for the purpose of building pollution remediation equipment based on microwave vitrification technology.

I'd like to tell you a little bit about what microwave vitrification is. If you look in the dictionary you can look up the word "vitrify" and it comes from the Latin word glass. It just means glass making. In particular, though, we're not going to make glass like you see in the windows, we're talking about a glass-like substance which have the properties that chemicals in the glass are chemically bound into the glass.

Glass has a very, very high durability. If you look at the geologic samples of volcanic glass, naturally occurring glasses, some of these glasses are literally hundreds of millions years old.

The National Academy of Science has found through various studies that glass is used for immobilizing radioactive waste, it can durability lifetimes and very low solubility that are projected to be beyond a hundred thousand years. So glass appears to be a very, very stable way of safely storing radioactive contamination.

Microwave vitrification is simply using microwaves to provide the heat energy to heat and then fuse the materials to melt the materials in the glass-making process.

Microwaves can be contained inside of a metal container so that they don't leak out so the heat source is efficiently contained and at the same time there's no safety issues associated with that heat source.

If you look at the chemistry of the glasses, they're mostly -- the glasses that we're looking at are silicate glasses -- they have silicant and oxygen. It's basically sand that has been fused.

There are other chemicals in there which break the molecular arrangement of the silicant and oxygen atoms and in small quantities when you add radioactive contaminates they're bound inside of this molecular network.

If you look at it you'll see -- sort of an illustration here, this is kind of a two dimensional illustration of a three dimensional network -- image you have a hair net and now you've put some of the contaminants inside of the hair net and fused them so they are part of net and then ball it all up. You

have then a conception of what it's like to lock up this material inside of the glass.

It not encapsulation, it's not soaking it up into a sponge, it's chemically bound. If you make the right glass chemistry, you have a situation that when it's attacked by water it will be self-healing and so it can have extremely low solubility rates. And there are actual tests that are done to show that materials leak out in extremely low rate, so this type of waste form is very stable, it's safe to handle.

If you take the clay-type materials that you find in the Nevin soils group, which make up the soils that are found around SLAPS, the ball field and Coldwater Creek and you dry it out and you find it has find it has very, very tiny particle -- like flour. In the wind these can be dispersed. If you have an accident transporting large volumes of this, you have an easily dispersed material that has the radioactive contamination in it.

The glass, on the other hand, even if you were to take the glass and break it up, the individual shards of glass are not anymore soluble than the large mass except for the larger surface area of the volume. And so you have a situation

where you don't have an easily-dispersed, fine, flour-like powder that can get around the environment, you have chunks of glass which can be retrieved and even individually aren't very soluble.

So what does this waste form look like? Here you see a picture of a 250 pound slug of microwaved vitrified glass. This is made at the Rocky Flats plant, inside of a stainless steel drum. You see varies color gradations, that's because of the variation in what was actually going into the mix, that actual materials that were being treated to make the glass. We're basically talking about a glass ceramic material that looks like a big rock, it's a mineral.

These glass waste forms can be made in rectangular containers, they can be made in containers that have a slight taper with a liner so that they can be removed from the container, the containers can be reused, and you end up with then rectangular prisms, rectangular logs, if you will, that can be shipped off for disposal.

Well, you might ask what are microwaves. We've all used microwave ovens in cooking and they're rather ubiquitous. What I show here is electromagnetic spectrum. Microwaves are

electromagnetic energy, they're light energy.

We're all familiar with the rainbow and here you see the colors of the rainbow which is the visible part of the spectrum. If you go to measure what color, you can measure by the wavelength of these electromagnetic waves which is literally the distance between the peaks or the troughs of the waves.

When you go bluer, the wavelengths get smaller. If you go past the blue, you get to the ultraviolet rays. Beyond that are X-rays, such as dental X-rays for taking pictures. If you go to the redder, you get to light you can't see anymore, called infrared, which is often used for baking and cooking.

If you go to a longer wavelength still where the wavelengths are now no longer microscopic but the order of a few inches across, we call those microwaves. Examples of applications of microwaves are radars, home ovens, cellular telephones and industrial processing.

Microwave vitrification is performed at either the 2.45 gigahertz frequency or 958 megahertz frequencies which are FCC approved bands for those particular activities. They're also the bands which

are used for microwave cooking. Of course, if you go a longer wavelength you get into familiar radio waves. So there is nothing my mystical about microwaves, they're just another form of light energy.

Well, where does this technology come from? The idea of using microwaves for cooking and then for vitrification for radioactively contaminated wastes was purposed more than thirty years ago. But it was in the late seventies where there was a great flurry of activity in Japan and in Great Britain to actually produce practical systems for doing this.

In the mid-1980s the Department of Energy laboratory started to look at this and particularly at Oak Ridge National Laboratory in Tennessee and at the Rocky Flats Environmental Technology Site in Golden Colorado.

In the early nineties, the Rocky Flats plant put together a pilot plant which has been operating for about five years, and it was recently shut down as that project ended, but it showed that you could produce 70 kilograms of glass per hour on the pilot scale with very, very good reliability and very, very good quality glass.

Today microwave vitrification is being

pursued actively around the world in many countries, but in particular it's being pursued in France, Japan, Russia and here in the United States. Here in the United States Clean Earth Technologies company is pursuing it.

Well, why do vitrification at all? And in particular why do microwave vitrification? Why dig the stuff up out of the ground and add some things to it and melt it down? Well, the reason of course, first, is because it's a cost-effective way of getting it into immobilized waste form.

The kind of things we're talking about adding to what comes out of the ground are things like sand, borax, diatomaceous earth, things that are very inexpensive, commonly found, safe things that go into making a good glass. Other things might be lime, soda, ash -- that sort of thing.

It turns out that when you heat up the material you lose a lot of water that's chemically bound inside of the soil so you get some weight reduction. You also boil off such things as carbonates and other things which produce harmless gasses like CO2 and give off some nitrogen and what have you.

It turns out that the amount that you lose

is approximately equal to what you have to add in the glass-forming materials. So the mass stays about the same in whole process once the water is removed and at that point you get a change in density. You actually pack more stuff in a smaller space and the result is that you very easily achieve a factor of nearly two in terms of volume reduction.

That means if you start out with a cubic yard at the beginning of the process, when you're done you're going to have a half cubic yard. That's half as much volume. Since tipping fees, handling, transportation, have a large component of costs that are based on volume, there's cost savings there.

As far as the immobilization of the waste, a very big issue is risk and liability. By stabilizing the waste at the site before you transport it you have a waste form which is much safer to handle, which is not easily dispersed, is not soluble, and it's not going to get dispersed into the environment.

In addition, it's a retrievable waste form and principally you can did up these logs fifty or five thousand years later. If better technology comes along or other means of storage or disposal, you have a way of getting to it.

But why microwaves? Well, just like in your home a microwave oven is relatively compact and efficient because it has a low thermal mass and you really just heat the food, you don't heat all the stuff around it. You don't need a big, huge refactory box like they use for making glass commercially.

So a microwave oven is very much more compact, less expensive to operate. It can be easily started up and stopped. It can be stopped in a matter of a fraction a second. Whereas, conventional glass-making is done in large refactory ovens that take many, many hours to shut off without incurring thermal disasters. So microwaves are something which can provide a lot energy, very portable and very cost effectively.

So let me take you through the process of how one actually does microwave vitrification. The first step, of course, you dig up the waste and you feed it into the processing equipment. It has a lot of water in it. Typically the clays are about 1.75 grams per cc, that's the Nevin group, typical St. Louis soils.

After you've dug them out of the ground they may still have as much as 30 percent water and

you have to get rid of the water to make good glass, otherwise you'll end up with porosity in the glass. So it has to be dry. This can be dried by conventional heating techniques or it can be dried by microwaves. Both have been very effective.

Once the waste is dried, you add glass-forming materials -- a little sand, a little soda, maybe some diatomaceous earth and borax -- mix it up real good, maybe put it through a grizzly to shred it down into pieces that are easily handleable and fed into the microwave equipment.

You start out with a metal container with a little bit of this mixture that you put together according to your recipe at the bottom of the can and add microwaves. It gets hot.

It's like putting a roast in the microwave oven, it gets hot. As you leave it in though, it gets hotter and hotter. In this case we're trying to burn the roast. We leave it in until it melts. Then we keep adding material and microwaves until the drum is full.

When the container is full, we disconnect it, put it aside for cooling, connect another container and keep on going with the process. Once the material is cooled down sufficiently it's dumped

out of the container. It can be tested and then shipped off for disposal.

Now, some of the issues are that you generate off-gas. When you dry the material you get steam. When you actually make glass, you get various gasses that come off -- mostly nitrogen, oxygen, CO2, a lot of water.

These things may or may not have particulates in it. There's some nitric oxide, some sulfur dioxide. The concentrations are very low, very handeable. But a big part of the system for doing this kind of work is an off-gas treatment system so that the gas emissions are clean air, the water emissions are clean water.

These things are very important because there's no point in doing microwave vitrification without having adequate controls on these things which you discharge. The idea is to clean things up, not to make them dirty.

When you dig up radioactive contaminated soil it has uranium, and it's radioactive daughter, it's going release radon. This is being released all the time at the sites so it's important when you handle it not to confine it in such a way for a long period of time that you'll build up radon

concentrations that are unacceptable. This is a matter of doing good accounting and good handling.

It's also important in the treatment of the gasses and all that you make sure that you trap all of the particulates, that you don't let dust get all over the place from excavation and from your actual processing. This can be done with tents and enclosures. As far as the water, again it's a matter of trapping it and treating it.

So where would microwave vitrification fit into an integrated remediation, say, for the SLAP site? Well the very first thing you would do, of course, is prepare the site. And that might include such things as frozen barriers between the site and Coldwater Creek to prevent the change in groundwater status from filtering down out of the site, to take care of the excavation water, do a storm water management, put up an enclosure to trap the gasses and the dust so that you can filter them, use filter media that can be crunched up, shredded and put back into the microwave vitrification feed so they can be disposed of properly.

Do some analysis. At SLAPS you have nearly 22 acres, not all of it is contaminated. There's a plume around it which is leaking out onto Banshee and

out to McDonnell going across to the ball fields. It would be nice to know where the edges of the plume are, where the worst contamination is and if there's any parts which aren't sufficiently contaminated or which are below threshold that don't need treatment, to do that you want to do analysis.

You want to do things like the LAN spectroscopy and gamma ray spectroscopy so that you know where it is that you want to dig, where it is that you want to actually treat the stuff and only clean the stuff that you have to take care. Only treat the stuff that you have to.

But there is a another reason and that's accountability. Measure the stuff as you dig it up, measure the stuff after the vitrification, measure the stuff in the equipment as it's going through. That way you know what the inventory is of the radioactive contamination. Make sure you don't lose any of it. Keep track of it.

When it comes out, you test the glass. If the glass is acceptable and has all the properties it's supposed to for good disposal, send it off for disposal. If it doesn't, send it through a grizzly and put it back through the system and fix the recipe. With an integrated system you can get cost

savings by the selective soil sorting and you also get cost savings by the volume reduction.

Are there any questions?

THE FACILITATOR: Yes, Mr. Kucera.

MR. KUCERA: I follow you to the point of sending the materials off for disposal. What would your plan be -- I know how soil type materials can be disposed of at an approved facility like the Nevada Test Site, Evirocare and Dawn and the other vendors who are always here along with your folks, what about sending instead of soil you're sending glass bricks or glass cylinders, what's your plan to deal with void spaces?

MR. GOLDEN: If you send them as rectangular logs and you pick the geometry so that it's acceptable, my understanding is that these are quite acceptable to the disposal sites. You don't want to send round logs, you don't want to send spheres because then you have a big penalty and poor geometry. But the Japanese have been doing, for example, rectangular logs since 1982. So it's easy to do.

THE FACILITATOR: Any other questions? Dan Wall.

MR. WALL: Just to follow up on that. Can

you produce a fritted product as they do in a conventional vitrification process.

MR. GOLDEN: I'm sorry, I couldn't hear the question.

THE FACILITATOR: The question is can you produce a fritted product as they do in conventional vitrification.

MR. GOLDEN: You say, fritted?

MR. KUCERA: Fritted, yeah. That's a term they use refer to the bead-like product that they often make --

MR. GOLDEN: We have not produced fritted or beaded product but that certainly could be done with our process and we could certainly contact the people who make the beaders. But ours is an in-container process which has the advantage it can have much higher glass viscosity and so it gives you much higher waste loading.

The problem with the beads is that you have a high surface area to volume and so the release rate is much higher for a given corrosion rate. So there are some advantages of doing it as a big monolithic log. But beading can be added to this process without any problem.

THE FACILITATOR: Additional questions? ?

THE CHAIR: Okay. I have a question about the drying process where you discuss the fact that you treat the waste water. When you treat that, what volume of waste -- you have a residual waste evidently, I'm sure, from that treated water and what volume would that be and also what happens to it? Does it go back into the mix?

MR. GOLDEN: Yes. The answer is yes, it goes back into the mix if you choose the correct techniques. It depends exactly on what there is in the soil. If it's heavy clay soils you have to expect that there's going to be a lot of fines and such which are going to come out with the water. Most of water is evaporated. So it's like distilling the water, most of it comes out relatively clean with very little particulates but some of it of course will come out with contamination. That can be filtered. You can use electrocoagulation to pull a lot of it out. It can go through membrane separations if they're organics. But sending it through typical keno (phonetic) filters and charcoal, granulated activated charcoal is very effective. All of those media can be ground up and used as various parts of the chemistry to make good glass so they can be put right back into the mix.

THE CHAIR: Thank you.

MR. LARSON: It needs to be emphasized, and perhaps you feel like you've already done that, but the material is just as radioactive in the vitrified state as it is initially. It's just as dangerous for it to be handled in the vitrification state than it is as raw dirt. That is a correct statement, isn't it?

MR. GOLDEN: Actually the activity levels because of the volume reduction factor being around a factor of two, the activity levels would be about twice as high for a given mass of material.

MR. LARSON: Right. So actually the exposure -- the concentration would increase the exposure levels per unit of material.

MR. GOLDEN: That is correct. However, now the material is locked up for eons and in a place where you know where it is as opposed to having it be dispersible or migratable or transportable through the environment.

MR. LARSON: Okay. The other question in actually doing this would the process -- would the equipment to do this stuff be built on-site in such a place as SLAPS or HISS or somewhere else or would the material be lifted and moved to a remote site where

the vitrification would take place and then disposed of from that point.

MR. GOLDEN: Thank you for asking the question. The question was would we build a factory I guess on the site or would we have it be a portable unit. Our systems are portable units that take up, depending on the size, the processing size and power, about two or three tractor trailers to do something in the neighborhood of a half to one ton per hour of waste form production. They are mobile systems. You can drive onto the site, you can leave the tractor trailers there, the tractor part -- the trailer part rather, or you can off load the modules, pick them up. It's easy to set up and take down and they can be transported from site to site.

MR. LARSON: And do you have a rough feeling for the dollars per cubic yard that this whole procedure costs to go from raw dirt to the material ready to hall.

MR. GOLDEN: Sure. It turns out that the cost, including the capital cost of equipment, the materials that you have to add, the labor and the electricity, amount to about $200 per ton, per metric ton.

THE FACILITATOR: Clarence, do you have

something you want to amplify?

MR. STYRON: Yes. I just want to comment about the hazards from the radioactivity. What you said is quite true for the gamma radiation emissions but once you have bound the dirt in this glass monolith, the alpha particles are shielded by the monolith so you can subtract that hazard and of course you can't inhale the large glass monolith.

So to the degree, yes, the gamma is still there but you have much less exposure potential to the alpha radiation.

THE FACILITATOR: Okay. I saw two hands over here, I'm not sure who was first, so you two decide.

MS. HERMES: Do those cost figures include the cost of freezing the boundaries and the soils underneath the area that would be excavated?

MR. GOLDEN: No. The cost number that I gave you is for the actual drying vitrification process. It's for the actual treatment but not for the site preparation.

We have looked at the overall costs for doing the preparation. You would probably incur those kind of barrier technologies whether you're going to simply dig the stuff up and hall it away,

whether you're going to treat it by microwave vitrification or do something else at the site.

MR. FRAUENHOFFER: You talked in terms of tons, convert that to a cubic yard for me and you said that you'd run about a cubic yard an hour -- I'm sorry, a ton an hour. That's close to a million cubic yards. How many years would it take to vitrify what we have?

MR. GOLDEN: Okay. Good question. The question was how to convert from tons to cubic yards. It turns that roughly one ton of waste form glass product is roughly a cubic yard.

THE FACILITATOR: Well, what about the volume going in, that's the real question. What we're talking about is what we're starting with.

MR. GOLDEN: And we're talking about roughly a factor of two volume reduction. So we're talking about being able handle something approaching a couple cubic yards per hour for a given processing head per container but you can have multiple heads and containers in the system. You share off-gas treatment, you share material preparation, that sort of thing. So a few tractor trailers could easily be doing several tons per hour. At that point, depending how much you want to do at a time, since

these are modules, you just buy more modules. The cost per unit will only go down if you do more at a time than less. And having, you know, sort of eight containers at a time being processed, you could do it in about ten years. With more you could do it faster.

THE FACILITATOR: Roger has a question and then I would like to bring this portion of the agenda to closure. We still have a couple of other items to cover.

MR. PRYOR: Okay. The question I have is, looking at these appendices to Jim's report, the costs seem to be, you know, in the same ballpark more or less but it's really not a cost savings we're looking at. But one of the issues we're dealing with here is the pragmatic problem of getting funding from the federal government to do this project, however we do it, and I know there's been some feeling that perhaps if this were done, you know, as a full-scale demonstration project here the interest -- and the federal government has seen that done -- might make them more interested in providing some money.

Now, that's an assumption someone made, I don't think there's any validity to that, and I don't think anyone can really speak to that, but clearly

that's another issue. I think what makes this interesting and intriguing to me is that if it's something that would enhance our chances of getting funding, to get the whole project done, I don't know if anyone can speak to that or not, but I know I've heard that mentioned as if not an equal reason for doing this, certainly a very high reason for considering this process.

MR. CAVANAGH: I just happen to have a resolution to that effect because I think that is an opportunity that we might wish to pursue. I don't know if it's appropriate to introduce it now.

THE FACILITATOR: If it's connected to this presentation, this is the best time.

RESOLUTION BY MR. CAVANAGH:

MR. CAVANAGH: Okay. Let me quickly pass this around then, if I may. This is one of these resolutions that's easier for me to read than for me to read aloud perhaps but the basic intent is along the lines of what Roger was suggesting.

After reviewing the Department of Energy's database remediation technologies, the St. Louis Site Remediation Task Force has determined the use of ex-situ microwave vitrification coupled with gamma rays spectroscopy and laser ablation nebulization --

this is really fun reading for a non-engineer -- nebulization spectroscopy in a continuous field process shows promise for achieving the cleanup standards that we have established -- that's Kay Drey's resolution; (2) for reducing volume and (3) for stabilizing the radioactive waste.

So this resolution would read then that we request the DOE evaluate the merits of the aforementioned technologies in a field demonstration on the 21.7 acres at SLAPS during fiscal 1997.

Further, the Task Force requests that the remediation demonstration include appropriate engineering controls to prevent contamination of the water beneath SLAPS, i.e., frozen soil barrier technology to stabilize the soils during excavation and ensure that air quality is not compromised by the emission of radon gas or volatile contaminants in the soil.

Finally, the Task Force would like the stabilized waste resulting from the demonstration shipped to a facility licensed for the disposal of radioactive waste.

And I believe the intention of this resolution would be along the lines of what you're suggesting, Roger, that we try and get a

demonstration going and to perhaps access some available funds to have that tried out here in the St. Louis area. So I would so move that resolution.

MR. PRYOR: I'll second that. And I'd like to make a comment, if I could. The question I have is still on the table as far as I'm concerned because I don't know if there is anyone here who can speak to this authoritatively. Maybe I'll throw this to David, just to put you on the spot. Would DOE be, you know, anymore inclined to -- is there any inclination at DOE to try this process out on a large scale like this somewhere or are we just casting sand.

MR. ADLER: Well, it never hurts to test the water. My sense is the technology has already been tested on a small scale to comparable materials already in that area. In fact, it was done by DOE and other outfits subsequent to DOE so I guess there's lab, bench, pilot scale type information already available.

People have looked at that and I believe concluded that the technology though it does offer some of the things described such as stabilization and so forth, ends up being at best cost neutral. It doesn't actually save money. Unless there was some

other significant benefit, it might not be a top priority. I think the direction of the budget is for how you manage the waste form generated and things you do to pretty it up prior to shipping it. They are almost secondary issues, I think. But, you know, you can try it and see what happens.

I think there is a fair amount, though, of information available on this technology as it relates to this type of matrix, though. So it might be repetitive with work already done.

THE FACILITATOR: Okay. There is a motion concerning this resolution and a second. Is there anyone else who wishes to speak to it? There are several hands. We'll just go around the room.

MS. HERMES: I would like to offer two amendments. One, that there be some wording that the Task Force asks the DOE to provide for worker protection and, two, that in the last part that the stabilized wastes be shipped as a load is ready rather than, say, at the end of the ten or twelve years having the stuff on-site.

THE FACILITATOR: Were the amendments understood and are they acceptable?

MR. CAVANAGH: I'll accept it as a friendly amendment, I guess.

MR. PRYOR: That's fine with me.

THE FACILITATOR: That's a yes, I think.

MR. FRAUENHOFFER: I guess I need a clarification in terms of what's being proposed. Is this the total site as a demonstration or we're going to take some quantity of material from the site and demonstrate that it works. In other words, it's the difference between a two to $5 million and in you're going to do the whole site a couple hundred million dollar project and if you approach one -- one may be more successful than the other in getting support.

THE FACILITATOR: So the question is what's the scale you're contemplating here for a test?

MR. CAVANAGH: I believe what we're talking about is a demonstration as opposed to a complete use of it. So it would be on a smaller scale.

MR. FRAUENHOFFER: Okay. Then I guess my question is why are we looking at frozen soil barriers, things like that, as a part of this resolution. If what we're testing is the technology it's a matter of just grabbing some material and seeing if it works and seeing what the impact is, out of the middle of the site where you don't disturb anything else, or don't change anything else.

THE FACILITATOR: Does everybody understand

the question?

MR. FRAUENHOFFER: Unless you want to try several different technologies. Again, I'm trying to determine what's the purpose of the resolution.

MR. CAVANAGH: I think that the intent is to have the demonstration occur here in St. Louis at this site and to use larger quantities perhaps of the material so that we can better understand whether or not it's cost effective --

THE FACILITATOR: The question is broader than that, though. Apparently the resolution includes some reference to the frozen soil barriers and things of that sort and Jack's question was why is that a part of the resolution if really what we're trying to get is a determination whether this technology, the microwave vitrification portion, is suitable for use here. Is that the question?

MR. FRAUENHOFFER: Yes.

MS. HERMES: Can I ask a further question which might clarify?

THE FACILITATOR: Along the same lines?

MS. HERMES: Yeah. My impression was that we were talking about using the airport site as the demonstration?

THE FACILITATOR: Yes, SLAPS was referred

to specifically.

MS. HERMES: Okay. So wasn't it to do the whole airport site as a demonstration site?

THE FACILITATOR: No. That was the initial question and the answer is no, the idea is to do enough volume to demonstrate one way or another the effectiveness of this technology and the suitability of the technology for application at SLAPS, correct?

The proposal is not to just embark now on the remediation of the entire SLAPS site utilizing this technology. It is rather embark on a test to prove or disprove the suitability of the technology for use at SLAPS. Correct?

MR. CAVANAGH: Yeah. And to the second part of the question maybe Conn Roden can speak to it.

MR. RODEN: Well, to me it's the soil barrier technology and the other you're talking about ensuring air quality that's just natural protective measures you would take in the process of doing the vitrification.

MS. STEWARD: Can we have an idea of what the approximate cost and the amount of time that's going to be required to do this?

THE FACILITATOR: Cost and time.

MR. CAVANAGH: At this point I really can't answer that, I don't know. Does anyone else?

THE FACILITATOR: Bob Wester is indicating that he can respond.

MR. WESTER: If I may, I would just address a couple of the issues that were brought up. The one that Jack brought up about the frozen barriers technology, that's as an example is the way it's referenced in here, as I read it. I just read it now.

I think probably more appropriate is Conn Roden's comment. Whatever technology is appropriate that you would normally take as institutional controls or engineering controls to maintain a safe working environment, that would be the proper wording perhaps to put in there. That may include this type of technology or other technologies appropriate.

Going to the cost issue, it's a demonstration project, start to finish, of approximately $4.9 million, as I remember the reference, which does, in fact, include the decision for DOE to move the waste off-site as prepared, not allow it to be stored.

MS. HERMES: So that includes the disposal cost, off-site disposal.

MR. WESTER: That includes the disposal cost.

THE FACILITATOR: Dave, would you ask your question so everybody can hear it, please.

MR. ADLER: I'm sorry. What volume of soil would that $4.9 million address?

MR. WESTER: Let me refer that to Dr. Golden.

MR. GOLDEN: We're talking about something like a couple hundred tons at the top end.

MR. PRYOR: Is that a couple hundred tons of glass?

MR. GOLDEN: Soil.

MR. PRYOR: What is the volumetric comparison of that?

MR. GOLDEN: Well, it depends on what the actual soil --

THE CHAIR: Excuse me, we can't hear over here. Could maybe you go to the microphone.

MR. GOLDEN: The question was how does the volume relate to the weight. It turns out there's typical densities are around one and a half to one and three-quarters tons per cubic meter so we're talking about something where there's about maybe one and a half tons per cubic yards typically. And we're

talking about a demo that might do up to couple hundred tons of soil, so we're talking about, you know, somewhere between a 100 and a 150 cubic yards.

MR. GRANT: I mean we've heard a lot of statements about typical things. One question that I've had is what really is the volume reduction that could be expected. We've heard a factor of two. Yet I've heard -- this can vary quite a bit. It can be as low as 25 percent or whatever. We've asked for data information repeatedly and never received that. There's nothing wrong with proceeding -- you know, $5 million is a lot of money just to go on somebody says it's going to do this. Without data I think it would be prudent to run some kind of pretest or bench test to substantiate just what the volume reduction would be. Because if the volume reduction is 10 or 15 or 20 percent, it's not going to cost you a lot of money rather than be revenue neutral. And I think that type of information is necessary. If it's not available, it ought to be done before we commit to spend that type of money.

THE FACILITATOR: Additional comment?

MR. GRANT: Would be prudent to do.

MR. BINZ: More for clarification purposes. The 4.9 million is really for a pilot

scale system. We're not talking about full-scale production, we're talking pilot; is that correct?

MR. GOLDEN: That would be a system that would do something in the neighborhood of maybe a quarter of a ton of glass per hour.

MR. BINZ: Again, for nomenclature purposes, is this a pilot system or a full-scale production system?

MR. GOLDEN: It's bigger than a pilot system which already exists and it's not as big as a full-scale production. It would be within a factor of two or three of a full-scale production system. Sort of the middle between a pilot scale which has been done and a full-scale. But no integrated system has actually been --

MR. BINZ: So --

MR. GOLDEN: -- at a site like SLAPS. You know, there are similar systems that have been built for fixed installations and also we don't really know exactly what the soils are at SLAPS. But we do know that the worse case is heavy clays which are out there. And if it's typical of other North County heavy clays, we actually you do have some data on those. And the volume reduction of 45 percent is cheap with the very heavy clays. Presumably it's not

all heavy clay. So that's kind of a worse case.

MR. BINZ: So it sounds perhaps that a component of the pilot system would be available for a field demonstration possibly?

MR. GOLDEN: That would be up to DOE --

THE FACILITATOR: Please make sure you speak up so everyone can hear your response.

MR. GOLDEN: If the pilot system is DOE equipment it would have DOE to relinquish it.

THE FACILITATOR: I saw some other hands but I'm not sure where.

MR. RODEN: I just wanted a clarification maybe clarification from DOE. Do you have any information on Savannah River? There is a vitrification process going on there, at least I understand that, can you kind of give us an idea of how that system works in comparison to what we're talking about here? Or what's your success rate or how you determined it down there?

MR. PRICE: It's used for a very different application. It's use for a very high level -- it's a very different process.

THE FACILITATOR: That's Less Price speaking.

MR. ROLEN: I have a little problem with

the resolution in the fact that since this process was presented to us, it was presented as an integrated process. And one of those processes was that all excavation would be done under an atmospheric boundary layer, a shelter of some kind.

I've heard somebody say, well, that's just part if natural safeguards. I don't think that's acceptable, that that should be part of the resolution and part of the process. That that's stressed. Because we a significant safety factor if we allow particulates in the atmosphere that probably exceeds the danger of a SLAPS site altogether.

THE FACILITATOR: So you're saying that for your purpose it would be only acceptable if the motion were clearly to include an enclosure or some other form of protection?

MR. ROLEN: Either that or if the resolution were referring to presentation set of documents or whatever that actually describes a process and I think that would probably be better if the resolution actually referred to very technical volume.

THE FACILITATOR: A detailed --

MR. ROLEN: Yeah, a detailed technical volume.

THE FACILITATOR: -- proposal. Any other comments on the motion? What's your pleasure with respect to it? Sally?

MR. ADLER: Can I fill in one more thing?

THE CHAIR: Sure, go ahead.

MR. ADLER: I was just doing some quick math, and I hope it's good, but just as a perspective, that for about $5 million you could ship off just directly as we've been doing for the past couple of years about 5,000 cubic yards of soil.

So if you assume that all the money is ultimately coming from one pot regardless of how big that pot is, we're talking about a demonstration project which gets 200 or 400 cubic yards -- I can't remember how the 50 percent cut goes out to Utah admittedly in a very, very safe form versus 5,000 cubic yards to Utah in a pretty safe.

I mean, we believe that we can safely transport this soil in it's current form so that's a consideration, I think, as we think about how to apply our resources for next year and the year after that or whatever.

MS. HERMES: Can you say those last numbers again?

MR. ADLER: Yeah. And this is a dangerous

stuff but it's literally scratched out of the air. But for $5 million you could ship about 5,000 cubic yards of soil based on our experience of the past couple of years. So that would be a lot of soil. So spending about $5 million would get about 5,000 cubic yards out of town the old-fashioned way as we've been doing in the past couple of years versus 200 cubic yards under the new technique, if my math is right. I think it is.

UNIDENTIFIED: Without emission controls?

MR. ADLER: Well, we would use the standard emission controls for the technique we currently use which is a wetting and covering and monitoring.

THE FACILITATOR: I would like to jump in here and just point out that at twenty-five minutes of ten and we began this presentation at ten minutes to nine; is that right? Yes. And we still have a couple of other items on the agenda that are rather important. They may not take long but they are important so I would like to try to expedite this, bring it to closure and get on to the rest of the agenda.

MS. PRICE: I really don't know if we're prepared to vote on this. I don't know what the sense of the group is. There's one issue that hasn't

been raised that is in support of this technology that I would like to just raise for all of your consideration. And that is from a national perspective there is only so much room in our licensed facilities and if our motivation is to see a lot of our soil removed from our area, we have to justify that pretty much in order to use up space that is valuable for the country for these same sorts of purposes and by reducing the volume with this technology, if it were feasible, even if it's cost neutral, as Dave already has said, there is still a benefit to be obtained for using the technology so that's just an issue to keep in mind as you consider it. And I don't know what the pleasure of the group is.

MS. BUNTON: I think some suggestions were really good -- worker protection, ship it off as its glassed up. But, Mr. Adler, I think your suggestion was just to kind of kill the whole thing.

MR. ADLER: No, it's really just to provide perspective.

MS. BUNTON: Well to me when you say a couple of years, this stuff has been sitting here fifty years. And if there's something out there that we can use to get it out here, to use our land, keep

our people safe, let's do it.

MR. ADLER: Sure. I was just mentioning that there are other techniques that we've been employing for the past couple of years to do that, that would get more of it out. That's all.

THE FACILITATOR: Additional comments? I'd really like to bring this to closure. It has been almost an hour so please say what you have to say --

MR. GOLDEN: Well, I'd like to point that a demo would be not just a demo of microwave vitrification but it would be an integrated demo that would include the other technology such as the analysis and the techniques for safely removing the stuff. So it's just microwaves that you get for that 5 million bucks.

THE FACILITATOR: Okay. Where are we and where would you like to go in the next minute and a half?

MR. CAVANAGH: I hate to be parliamentarian again but basically I would say we've got two options. We have a vote to be taken or someone would make a motion to table -- one or the other.

THE CHAIR: Right. Is there a motion to table the resolution? That being the case do we take a vote on this resolution?

THE FACILITATOR: If that's your pleasure.

MR. LARSON: I would like to make a motion to table the resolution until the next meeting. And just an idea, and I'd appreciate comments, but I assume that this resolution is proposed and has the endorsement of the technology committee; is that correct? Does the technology committee stand either way on this?

MR. GRANT: This is the first anybody has seen the resolution today.

MR. LARSON: Okay.

MR. GRANT: So that's not true.

MR. LARSON: Okay. So your idea was not to come in here today and suggest that we spend 5 million on this pilot plan, that wasn't the subcommittee's idea?

MR. GRANT: Well, the recommendation was that we continue to evaluate this vitrification technology. This proposal would be a way of doing that. I believe, though, there are some uncertainties in the volume reduction information data and before we go forward and spend $5 million we ought to do some pretesting to demonstrate we really can get the 50 percent reduction. If that's the case, okay, then perhaps the additional money spend

to do the demonstration is worthwhile. But again it's revenue neutral and then what you're interested in is what Sally talked about -- the stability of the waste form and the fact it does reduce the volume of the waste and the amount of space it takes up. That's the benefit you'd be getting from it.

MR. LARSON: My motion then would be to table the resolution until DOE -- for us to request that DOE comment on its -- from their experience on its applicability here and that we at the next meeting consider a smaller scale test which would follow the lines of what Jim is suggesting. That if we go ahead with it based on what DOE may be able to tell us if they have any light to shed on this, that we then go ahead on a bench scale level and that whoever is responsible for putting together the details of that bench scale would come to us with a cost figure for that.

THE CHAIR: Okay. Is that acceptable to the group? We need a second to the table motion.

THE FACILITATOR: There is a second.

THE CHAIR: Okay. All in favor of tabling the motion for the reasons Donovan gave say aye? And all opposed? So we'll take a hand vote then?

THE FACILITATOR: Yeah, that was close. I

couldn't tell one way or another. So all in favor of the motion to table, please signify by raising your hand and hold it up while we count, please.

THE FACILITATOR: Six hands. All opposed to tabling the motion please raise your hand? Ten, two abstentions -- Mr. Horgan and Ms. Ginsburg.

THE CHAIR: So we are not tabling the motion, it failed. Now, we need to discuss the amendments that Donovan has just brought up. If you want to recap those, Jim, for everyone.

THE FACILITATOR: I'd really rather Donovan recap them.

THE CHAIR: Okay.

MR. LARSON: Okay. You want me to recap what my motion to table said?

THE CHAIR: I thought you were suggesting that we amend the resolution to include a smaller scale, a bench scale type of a process.

MR. LARSON: Right. As well as the amendments mentioned before which is to emphasize workers safety which would include the atmospheric controls that Mr. Rolen mentioned and the point that the material be hauled away as soon as a truckload of processed waste is ready. The other amendment would be to reduce the scale of the suggested work to the

level of a bench scale so that we could determine the actual cost per unit of waste processed and we can determine the actual volume reduction.

And the suggestion would be then that I assume Clean Earth Technologies people would come back to us with a cost of that bench scale study. Does that make sense?

THE CHAIR: Okay. Is there a second to that amendment?

THE FACILITATOR: There is a second.

THE CHAIR: Okay. Discussion?

MR. RODEN: I think one or two things that a small scale bench scale may not tell you is the fact that this technology hinges a lot on finding the hot spots and removing the hottest areas and making decisions on what pieces of soil you remove and being able to put barriers up to protect the water table, being able to protect the atmosphere. It may not prove a lot if you do a small scale test.

It's also an opportunity to look at the overall picture of this whole problem. And one of those is not to move our dirt to somebody's else home. This technology gives us the opportunities to approve technologies in the future and that this waste can be removed from the ultimate storage site

and done something else with if we find some great new method of doing it or some place else to put it, like some other planet.

But there's a lot of potentials for the future and I think it may be an unfair test if you did a small scale test. If you just considered this on the cost and merits of the St. Louis site and not look at the overall picture.

MR. PRYOR: You know I can't pretend to know what scale things should be done at to make it a feasible demonstration project. But my assumption is there's been some discussion already and the figure for 4.9 million I assume came out of some discussion. Now, maybe it's not a complete discussion of what would be adequate to give us some results that would be useful for further action.

But I would frankly I guess want to leave that to the consultants and the contractors and DOE to determine to some degree -- you know, I don't see how we can substitute their expertise on how big a project needs to be done to make it measurable so it means something.

I think the project should be, though, as big as necessary to give us some results that can be useful to us. I do worry, along with Ray's comments,

that we under cell this thing we might just be wasting money. I think there's a gamble that we waste money but, you know, maybe the 5 million proves to be wasted but if we cut it down to two a half million dollars, say, and it doesn't produce results that could tell us anything then where are we?

I mean the whole purpose of a demonstration project is to demonstrate whether it works. And that's a gamble. And what we're gambling with is some money on the idea if it works, they'll give us a process that provide more stability, reduce volume and maybe a safer cleanup.

MR. WALLS: I'd just like to kind of support what Jim Grant has been saying. I mean in my view I think we already know that we can vitrify material and that we can probably do it safely. It's the threshold information having to do with whether or not we get good volume reduction on site specific soils that will tell you whether or not to go ahead with an integrated project. And I think if you don't have that threshold information, you're kind of jumping the gun if you're talking about going ahead with the pilot scale project.

THE FACILITATOR: Other comments?

MR. GRANT: I guess to add to what Roger

was saying. You know, when you look at the situation you've got to sort of look it and say well, what scale and how much. And I guess my concern has always been you just go into the thing and say you're going to spend the $5 million, you may know after a million dollars that it's not a successful program to move forward. So maybe a compromise on an alternative is to lay out a test protocol of some kind that allows you to evaluate at certain milestone steps where you're at and whether or not you feel it's worthwhile to continue of test, something like that.

That's the whole idea about pilot testing. We at Mallinckrodt would never just jump in and spend $5 million without doing some bench tests and some pilot testing because you need to do some preliminary pilot testing to even design your periphery control -- your condensers, your water treatment. How are you going to get that right.

So it's a matter of saying, okay, we're running some tests but let's have some milestones along the way and set some evaluation material to say at this point we're going to look and see if we're getting the type results we think we need and, if so, we will continue. And if we're successful all the

way through, yeah, we'll finish the demonstration study.

But if a fourth of the way through it's clear that we're averaging a 25 percent volume reduction, it would be silly to go on and finish the rest of the test. So maybe there's some way of laying out a test, protocol test, that allows us to do that evaluation as we go a long.

Yeah, we do some test work, we determine the efficiency of the technology but if it looks like it's really going downhill we cut off our losses at that point. You know, maybe something like that would be the way to go and rely on the technical people to get together to lay out what that protocol should be.

THE FACILITATOR: Okay.

MR. PRYOR: Just a quick point. Ric's resolution doesn't address any dollar amount, nor should it I think. It basically says we're requesting DOE to evaluate the merits of the technologies in a field demonstration.

I mean, that seems to me we've thrown it back to the various people to determine what that scale should be and what the cost should be and I would hope there would be criteria along the line

that if after, you know, a certain period of time it looks like it's going nowhere that you cold pull the plug on it. I don't know how that works. But the resolution, as I see, doesn't tie anyone to a particular dollar amount. That figure was mentioned as something that it cost around. And I think it's getting clouded because David mentioned well, for the same amount of money you can do this. But we really haven't thrown it out. All we're asking is that this be evaluated. So it seems to me that pretty clear-cut.

MR. CAVANAGH: That's correct.

MR. MANNING: I just want to point out a couple of things. One the demonstration will dispose of 200 tons of contaminated waste. DOE's 5,000 cubic yards is 5,000 cubic yards of whatever it is that's excavated which could have excess, basically spoil in it, so we would know that what we were getting rid of. It could be that they will go through 5,000 yards of material before they get down to 200 tons of material to be shipped away.

And I think at this time to put a dollar amount on the demonstration, let's let DOE say that okay. This is going to be the demonstration, give us a price Mr. Contractor to go through and get rid of

the waste in that area, period. And then we'll know what our volume reduction is and we'll know basically what our actual cost and reduction is or any cost savings that we may have.

THE FACILITATOR: Are there any other comments?

MS. HERMES: I would just like to call the motion.

THE FACILITATOR: Okay. I was going to offer one comment and say this is why we did things in working groups throughout the last two years so that we could have this kind of discussion, get into depth and come back to the Task Force with a collective recommendation that didn't require this level of scrutiny. However, the motion has been made to call the question.

MR. CAVANAGH: A point of order. I believe there's an amendment that's been made and seconded and so we need to vote on the amendment and that amendment from Donovan, I believe, was to reduce the scale to a level of a bench scale project. So we would first have to vote on that amendment.

THE FACILITATOR: Which is where we began this dialogue back with Donovan's explanation of his amendment. Is everyone sufficiently up to speed to

be able to vote the amendment. Yes? The question is could there be a friendly substitution. The question is would you be amenable to including in your motion that DOE be asked to worked with the proponents of this to establish an acceptable protocol?

MR. LARSON: Yes. The point of my amendment was simply to minimize the expense just in the way Jim Grant was discussing. Minimize the expense on a technology that may not do what we think it's going to do. So, yes, to modify my amendment so that DOE is working with the contractor in developing protocol so that that take place, so that in that protocol as data are created we discover that costs are not going to justify going forward, it can be stopped. That's the point of my bench scale amendment.

THE FACILITATOR: Okay.

MR. LARSON: So yes, I accept that addition.

THE FACILITATOR: Is that clear enough for everyone to be able to express pro or con sentiments on?

MR. PRYOR: Does Jim mean that as an addition or as a substitute?

MR. GRANT: Well, I was meaning as a

substitute.

MR. PRYOR: That's what I thought.

MR. GRANT: Bench scale for me could mean a lot of things. You could jump to a small industrial unit to do your test work and that would perhaps resolve some of the concerns about whether bench scale is full size or not.

MR. PRYOR: I'm not sure Donovan is clear on that. Because I mean I would be willing to vote for that amendment as a substitute but not just tacked on to the other words that are already there.

MR. LARSON: Well, go ahead and restate what you're suggesting and we can vote.

MR. GRANT: Well, what I stated was that we would want the DOE to work with the proponents or contractors on this technology. Develop a reasonable, suitable test protocol to determine whether the technology is going to work and obviously the idea was that we don't spend anymore money than we have to, to do that.

THE FACILITATOR: There's a term that Sarah uses and that's trying to corral kitty cats and I think we're trying to do some of that right here.

MR. GRANT: Maybe I just restate it that the DOE work with the --

MR. LARSON: Okay. Yeah, we --

MR. GRANT: -- to put together a suitable demonstration protocol. And just leave it at that.

MR. LARSON: Okay. My amendment then would be for DOE and the Clean Earth Technologies to put together a pilot project protocol that would provide for an investigation of this technology in a step-by-step format so that its reasonableness can be determined before the entire $5 million is spent. I think I'll stop there.

THE FACILITATOR: A good point to stop.

MS. BUNTON: Is that, Donovan, inside of an on-site test at SLAPS?

MR. LARSON: The pilot project may or may not be on-site depending on the efficiency of putting the pilot together. In other words, we assume that an efficient protocol would be established to give us good numbers as to whether we should proceed, whether that's on-site or off-site. You know, Clean Earth Technologies are the experts and I'm not so it might be there's very good reason to do it off-site if it were done on a small scale.

MS. BUNTON: I guess because I don't understand all of this, I need to ask since there's already been pilot testing to some extent, how could

we get good benchmark information if we're not there where that certain soil mix is at to know whether this is working?

MR. LARSON: Okay. The problem -- I don't mean to dominate, I'm sorry. If anyone wants to jump in, go ahead. The problem is that we are judging a technology we know very little about. We simply want to make sure that we don't spend $5 million if a million dollars will show us that it does not work. If it does work, I don't think most of us would argue that $5 million expended would make sense.

MS. BUNTON: Yeah, I agree with that. I'm just wondering how you find that out if you're not on the site where you need to know.

MR. LARSON: Well, my experience as an engineer is that there are various levels at which you can determine the same data that is your ultimate goal. You can do a pilot test and within 10 or 20 percent accuracy you can tell whether the reductions are going take place and whether the cost benefits are there.

If you do it on a larger scale you might reduce that plus or minus accuracy to 5 percent. So the more money you expend the more accurate your study or your -- the more accurate your data will be

with regard to whether or not the costs are reasonable or not. Obviously, you have more to say on this, go ahead.

MR. WESTER: Donovan, the only thing I wanted to clarify is that the $5 million or the 4.9 million that I referenced before was the whole technology package, other technologies that the Technologies Working Group recommended for further evaluation. It included mobile gamma spectroscopy, it included LAN spectroscopy which is laser ablation nebulization spectroscopy and microwave vitrification as an integrated package, all mobile, all ready to move to a secure site. That's why the SLAP site was picked. It's fairly well characterized in the form of its boundaries at least by the fence for security purposes. It's an area that has been prepared. It has what we're hoping is a clean to work from so that your cost of 4.9 million or 5 million is not just microwave vitrification.

One other side to that, before this was put together as a package, the non-contaminated regional soils at the airport were tested just to get some information on the soils. That volume reduction showed a 63 percent reduction in volume. Then you have to account for a frit, that is to make a good

glass which was a 5 to 6 percent additive. So you have a net reduction is in the neighborhood of 57 or 58 percent.

And the reason I'm reluctant to bring that up is because that was just a query on our part. Is it going to work? It wasn't what I call a formal protocol that was followed in order to give that evaluation. But obviously before I'm going to invest money as a businessman I want to know if I'm going to have something that's going to have a proper effect. And from that point we're operating on the basis that conservatively speaking we're 50 percent based on the regional soils, not the contaminated soils which can be slightly different, but they are incorporating the regional soils and we can have reasonable expectation from that. But the 4.9 or $5 million includes the whole technology package, not just microwave vitrification.

MR. LARSON: And your point is then that to reduce that to say that instead of treating 200 tons you treat 20 tons and you spend .5 million, that's not the way it works?

MR. WESTER: That is not a linear extrapolation.

MR. LARSON: Well, what's your minimum

threshold? Are you saying 5 million is the cheapest demonstration that we can do?

MR. WESTER: For the whole package. It hasn't been analyzed as individualized components for that purpose. You can't go in and not test soils for its contents, it's chemical, it's radioactive content and have the health and safety issues attached and worker safety issues attached if you're going in on-site. And again, I'm bringing to the point that it was demonstrated to go to that site because of some of the physical characteristics to which is added to the safety and security and then reduce cost. If you were to go across the street to the ball field you'd have to build a fence, you'd have build security, you'd have to add some of the controls that the SLAP site already had. So the $5 million again is the whole technology package for demonstration, not just the one technology.

MR. LARSON: Well, the point is --

THE FACILITATOR: There are two more questions, so let's see if we can close this one up.

MR. LARSON: I was just going to point out what I think is obvious. Somebody do this math with me, if you will, but the 200 tons treated at $5 million is $2,500 a ton. It's as Dave points out,

it's a $1,000 to haul away the dirt as our experience now demonstrates. So two and a half times the cost of the known technology is what we're going to pay for the unknown technology. And at the end of $5 million expenditure, are we then going to have a more cost-effective method of treatment than a $1,000 per ton. I think that's the question.

MR. CAVANAGH: If I can try and clarify. I think the most important thing, get back to reading the resolution, nowhere in the resolution does it cite any dollar figure. And I think we got to the 4.9 and that's kind of sidetracked us and everybody is thinking about a dollar amount.

The two key points that I'm hearing and seeing in the resolution are that we are asking DOE to evaluate the merits of this technology in whatever way, shape or form and with all the appropriate discussions and scientific perspectives added to that and that it be done at SLAPS.

Those are the key components. And I think -- it sounds like we're all pretty much in agreement -- it's worth looking at, that's where our work group has come at, and we're saying with this resolution is, you know, to support that, move forward and have DOE work at getting something going

at SLAPS from a demonstration perspective, no dollar amounts involved.

MR. GRANT: Just a comment and a request. I agree with what Ric has said. But this comment about the previous soils that have been tested at 63 percent, and this is the first time anybody I think at the Task Force or the work group has heard about the cost. I think it's legitimate. I mean if there is data available, please share it with us. We've asked for that before and we've also asked if you have a plan for this technology in terms of how you want to test it and what it is please share that with us.

If you've come up with $4.9 million it must be based on some kind of plan. I think it would be legitimate for this group or possibly DOE to have that available to them to evaluate and see if it makes sense. Otherwise, we don't have all the information we need to evaluate the situation.

But I agree with Ric's comment about the general resolution. Maybe some of these details can be thrashed out later.

THE FACILITATOR: There are several hands. I understand that Dr. Golden has had his hand up for ten minutes. Please be brief and speak to whatever

the point is.

MR. GOLDEN: Well, I would like to point out that soils are regularly vitrified. They're used as glass-forming factors like Fernaud, DOE, Westinghouse Savannah River.

Now the issue is what other details are there in fielding such technology in the integrated package at a site like SLAPS. And the demo doesn't address that. It doesn't really solve the problem. The other thing is once you've done the demo, we have equipment out there, sure you've paid two and a half times the factor premium to do that demonstration, there's no reason why you can't continue using that equipment for another ten years and end with costs that are approaching a couple hundred bucks per cubic yard.

MR. HORGAN: I'm just sitting here trying to process all the information that's going around but I just want to say on behalf of Congressman Talent, I think that this technology holds a lot of promise and it's definitely worth looking at in terms of general terms like Mr. Cavanagh said, I just would need to confer with the Congressman and more members on the Task Force before I could specifically vote for this particular resolution. But, you know, it's

certainly on the table.

THE FACILITATOR: I haven't heard any objection from the time Jim presented the Technologies Working Group report an hour and a half ago to right now any fundamental objection to the notion of pursuing this technology. It is a recommendation, a specific recommendation in the Technologies Working group report to the Task Force. It's now embodied in the resolution. No one has said let's not do this.

What do we need to do to bring this to closure today? We're back to the question of the resolution.

MR. BINZ: I know it may appear to be counterproductive but it seems to me logical to remand this back to the working group.

THE FACILITATOR: Now, we're introducing logic.

MR. BINZ: Are you throwing stones at me here, Jim, or what?

THE FACILITATOR: No, I'm just wondering what took you so long.

THE CHAIR: I know we're getting slap happy but I feel this resolution is a result of the working group's work and I just think we're going in circles

to go backwards. I don't remember who it was that pointed out -- maybe it was Ric -- that, you know, there is no dollar amount in this thing. I'm fine with it, if it reads as it does, and somehow maybe we can generally incorporate the concerns of Mr. Grant in there with regard to the scope of the demonstration project. I mean we have asked -- as a group there's been consensus on DOE looking at this.

THE FACILITATOR: So what you're saying is that if this were clarified to say, DOE please proceed to work with whomever it may be appropriate to develop specific ground rules or protocols for this to proceed, that that would make it work for you?

THE CHAIR: Yes. And without the $5 million.

THE FACILITATOR: Well, there is no dollar amount as Ric has pointed out.

THE CHAIR: I know. And there isn't to begin with and we've been talking about it as if it was in there.

THE FACILITATOR: In essence all you're saying let's advance the recommendation of THE Technologies Working Group by putting in it in resolution form.

THE CHAIR: That's right. That's the way I see it.

MS. STEWARD: We would also like to see in the resolution a statement that this work will be performed at SLAPS because we feel that we should duplicate as much a possible the conditions under which the actual work would be done if we ended up using this technology.

THE FACILITATOR: It's in the resolution so that should not be an issue. The only issue I think that has been suggested for addition at this point, and I'm being sort of rough around the edges here, I'm not paying strict attention to all of the conversation for the last twenty minutes but it seems to me that's what being said now is if we add a sentence that says please work cooperatively to develop the protocols that would lead to the implementation of this recommendation. We've got it.

MR. CAVANAGH: I don't think anything has changed from the intent of the resolution.

THE FACILITATOR: I don't think so either. So what shall we do with it?

MR. CAVANAGH: Vote on it.

THE CHAIR: I think we should take a vote.

THE FACILITATOR: All those in favor of the resolution please signify by saying aye.

MR. LARSON: As amended?

THE CHAIR: As amended.

MR. CAVANAGH: There were friendly amendments accepted about providing worker protection, some of the atmospheric controls issue and to ship when stabilized.

THE FACILITATOR: Does that cover it?

THE CHAIR: Are we not putting anything in about the protocol? I thought we were.

MR. LARSON: I thought that we had an amendment also that said the protocol would be developed that would allow for this thing to proceed as it continues to be determined to be cost effective and then at some point that the demonstration be stopped if it were not.

MR. CAVANAGH: That was not accepted as a friendly amendment.

THE FACILITATOR: It's not accepted.

MR. LARSON: Okay.

MR. GRANT: I would state something simpler -- just that a reasonable protocol be worked out between DOE and proponents --

MR. CAVANAGH: That's fine.

MR. GRANT: -- to satisfactorily evaluate the technology. I think that says it.

MR. CAVANAGH: Yeah, that's fine.

THE FACILITATOR: Okay.

MR. LARSON: That's fine. My concern, Jim, is, let me just mention, is that we don't know what kind of dollars that we're going do spend on this and that's just been my concern. Obviously to go ahead with this, Ric, we've got to spend some dollars. We don't know how many dollars we're going to spend. At what point are we going to say that we've spent enough dollars to make complete the demonstration. You know, if we're not going to say anything about dollars -- we eventually have to -- so I suppose that could be covered at a later date.

MR. CAVANAGH: And I would expect DOE to come back to us and it would all be part of the process working with the Technologies Working Group and so forth.

MR. LARSON: Okay.

MS. GINSBURG: I wanted to suggest that we might resolve this issue by a minor wording change. It says we request that the DOE evaluate the merits and field protocol of the aforementioned technologies.

MR. LARSON: That's fine.

THE FACILITATOR: Did everyone hear that and understand? Anna has made a specific suggestion for a language modification to the resolution which she think embraces everything that's just been said. Would you repeat it?

MS. GINSBURG: We request that the DOE evaluate the merits and field protocol of the aforementioned technologies.

THE FACILITATOR: Does that do it? Ric?

MR. CAVANAGH: Yeah, that's fine.

THE FACILITATOR: Ric is saying yes, that's acceptable to him.

THE FACILITATOR: Does it satisfy everyone's needs? Does it not satisfy anybody's needs? All right. Then let's call the question on that.

THE CHAIR: All those in favor say aye? All those opposed nay? Any abstentions? One.

THE FACILITATOR: One abstention.

THE CHAIR: Okay the motion is passed.

THE FACILITATOR: Thank you, Anna. Okay. Unless there is something more to be said about technologies, we can move to old business.

OLD BUSINESS:

THE FACILITATOR: There is just one item of old business that I would like to bring to your attention. We can either deal with it today or next week and that is that the Alternative Sites Working Group presented its updated conclusions and recommendations to the Task Force a couple of months ago after it had evaluated the Dawn Mining site as a potential disposal site.

When that occurred the actions of the working group had just occurred a few days earlier, there was no documentation, there is now an updated matrix. You have all seen this matrix when it had ten sites on it. It did not include Dawn. It now has eleven sites on it. It does include Dawn. And as I reported to you orally several months ago, Dawn fell into the same upper tier category as the four or five sites we found originally to be suitable. Those were three DOE sites -- I guess there are four altogether. The three DOE sites and Envirocare. The Dawn Mining site was determined to be in that same general category of suitability.

We can do either of two things. What I would prefer you do if there aren't questions in anybody's mind is that you formally adopt the recommendations of the Alternative Sites Working

Group so we have that done. We have a clean slate, nothing hanging in that category.

If you are uncomfortable in doing that for any reason, need to refresh your memories or need additional information from us then we could defer action on this to next week.

MR. MANNING: Jim, I'll go ahead and make the motion that we accept it.

THE FACILITATOR: Thank you, Tom. And there is a second, a couple of seconds. Any discussion? Shall we vote on that?

THE CHAIR: All in favor say aye? All in opposed nay? Any abstentions? So we have now adopted the final matrix from the Alternative Sites Working Group.

MS. GINSBURG: Yes, thank you. That will enable us to proceed with that part of the final report as well.

NEW BUSINESS:.

THE FACILITATOR: Is there any other business? There is one item under new business. Tom, are you going to handle 8 (a)? Who is going to handle 8 (a)?

MR. LARSON: Let me just mention real quick what this new business is. The various utilities

have met over the last few weeks here in St. Louis Country -- the County Water Company, which is my employer, Laclede Gas, Metropolitan Sewer District and Union Electric to discuss the ongoing concerns about handling routine maintenance and emergency maintenance situations in the vicinity properties.

And we are specifically asking the FUSRAP group to join us in requesting that the Department of Energy support us in our work to the level indicated in this letter to Sally Price.

In the second paragraph specifically we ask that the DOE through its St. Louis-based representative organization immediately provide field and technical support on an as-needed basis to all affected public utilities. This would include twenty-four hour on-call emergency response to utility job sites and to access the need for safety precautions.

If DOE determines that specially trained workers are required to handle the soils then DOE would be responsible for providing such workers at that time, for any excavation and backfill necessary to assure safe entry of utility workers to repair or maintain their facilities.

DOE would also be responsible for disposal

of any excess excavated material if there are any. This support of public utilities working at the SLAPS, SLDS and Vicinity Property facilities would need to continue until completion of all site remediation work by DOE or until such time that DOE provides the necessary easements and funds for the permanent relocation of all utilities facilities.

Now hopefully you've read the rest of the letter but the emphasis here is simply on the need for the additional unusual support that is needed working in these special areas by the utilities such that our own workers do not have to achieve the high level of training and safety consciousness that would theoretically be required in working in a dangerous area.

We are simply asking that when dangerous areas are identified that DOE take the responsibility to make the area safe prior to our going in to complete our routine tasks. This has been a point where we haven't quite seen eye-to-eye with DOE over the last few years and we would like to get it resolved. DOE in the past has not quite wanted to make the commitment to be available on a twenty-four hour basis and to provide us with clean conditions where hazardous condition presents themselves.

We're simply trying to rectify the situation by asking DOE to make that pledge to us and it would help if the FUSRAP group were to agree with us.

MR. CAVANAGH: I would second that motion.

THE FACILITATOR: So there is a motion and a second. Specifically what action are you asking for from the Task Force?

MR. LARSON: I'm specifically asking -- okay, let me read it. That would be smart. The last paragraph reads, Therefore, the representative St. Louis utilities request that FUSRAP Task Force members recommend, by a vote of the membership at the next -- at this meeting, that DOE assume the above responsibilities and also appropriate the necessary funds from this and future annual budgets to accomplish this task.

So it's a matter of committing the dollars they may have to be spent, we don't know, but if an emergency situation does occur that the dollars would have to be spent and that they would be available from this and future DOE budgets.

THE FACILITATOR: It ought to be crystal clear, it's all on paper in the last paragraph of the document that was distributed at the beginning of the

meeting recites the action that you're asking for. It has been moved and seconded so it's ready for discussion.

MR. KUCERA: Donovan, by the FUSRAP Task Force you mean this Task Force?

MR. LARSON: Yes.

MR. KUCERA: The St. Louis Site Remediation Task Force?

MR. LARSON: Yes.

MR. KUCERA: So if the resolution goes to Secretary O'Leary, for instance, she will understand who it is we're talking about?

MR. LARSON: Yes.

MR. KUCERA: There's a FUSRAP committee that Sally serves on and I just wanted to make sure.

MR. LARSON: Well, I can only request the recommendation from this group and I will I'll ask Sally to support this -- if we recommend it as a group, I would ask Sally to support it at her advisory committee level as well.

THE FACILITATOR: But the action today is simply the St. Louis Site Remediation Task Force action.

THE CHAIR: The inside address here speaks to me as Chair of FUSRAP Citizens Advisory

Committee. I am not Chair of any such group so I think St. Louis Site Remediation Task Force should be substituted there.

MR. LARSON: Consider it done.

THE CHAIR: The other thing I remember this issue as being on the table a year ago and now and then through the year you've alluded to it regularly but it seemed as though -- maybe it was in January there had been a change in your relationship on these issues with DOE, was there a time when they did provide twenty-four hour response and then it stopped?

MR. LARSON: Well, it's not complicated. DOE a few years ago was more willing to commit to twenty-four hour response to our testing needs. In the most recent correspondence they have backed away from that a little bit. Instead of being available twenty-four hours, they're available as conditions allow, I think, or something to that degree. And so that change has occurred.

And the other significant point is that DOE has never committed to making a site safe for utility workers if we were to encounter a dangerous area in our work and we're specifically asking for that.

MR. ADLER: I guess if I could comment.

The twenty-four hour thing is available and remains available. That's an ongoing service that we have provided and will continue to provide.

All the areas in the utility corridor have been mapped so we know where the contamination is and is not. That's not an issue.

But you're right, the third point has been an issue. We've never been in a position to respond to a property owner or utility manager with yes to a property owner with yes, we'll come up and dig it all up and take it away at your convenience. That is a real tough nut for us because we've got eighty different property owners, plus utilities each of whom would like to come to us and say, hey, I'd like to build a building over here and do something, can you get all this soil up and take it to Utah first. That's just been a budgetary thing.

So I think the real change that I think this thing would create if made a reality would be having DOE on call to service the utilities for the removal of soil.

The question I had is this any soil that's contaminated we're talking about or are we just talking about those particularly contaminated areas? Are you saying basically whenever the utility wants

to do work in an area with contamination exceeding residential guidelines, that DOE would come in and remove excess soil or are you just saying that in areas where the levels are high enough that they present a hazard to workers for utility type work?

MR. LARSON: Yeah. We're saying that in areas where the soil would in DOE's opinion require forty hour trained people to work within that area.

MR. ADLER: Okay.

MR. LARSON: That those areas then be handled by your people.

MR. ADLER: Okay.

THE CHAIR: I think it sounds reasonable. Are we going to vote then? Do we need a motion to approve this?

THE FACILITATOR: There is a motion and a second. We're into discussion.

THE CHAIR: Then we need to call for a vote unless there's any further discussion.

THE FACILITATOR: Are we ready for a vote? All those in favor of the motion which is requesting support of the full Task Force for this proposal made by the utilities forum. All those favor of that please signify by saying aye? Opposed? Abstain? No abstentions, no opposed votes. Okay. Motion carried

unanimously.

Is there any other new business? Is there anything that we haven't talked about today that anyone would like to have included on the agenda for next week?

What we're going to try to do, and it really depends on cooperation from everybody around this table, please read this draft document, get your comments back to us within forty-eight hours, by the end of the day Thursday. We will start writing Friday morning. We will get a revised document out as quickly as we can. We will meet next Tuesday. Hopefully you will have had that document in your hands for at least twenty-four hours, maybe longer, we will hopefully approve that document. It will be the final Task Force document subject only to modification by public comment. And we're going to do a fact sheet. We're going to extract from that document all the critical information that would be sent out in a simplified document to the public in advance of the public hearing.

Anything else?

THE CHAIR: The distribution plan for the report?

THE FACILITATOR: We're going to deal with

that next week too. We had said that earlier.

THE CHAIR: Right.

THE FACILITATOR: The Communications Working Group report will also be on the table next week. Anything else that needs to be said today? Thank you all for your patience and your endurance. See you next Tuesday at 7:30 here.

Adjourn.

CERTIFICATE

I hereby certify that the foregoing is an accurate and complete transcription of my shorthand notes taken at the aforesaid time and place.

Court Reporter

Date

Formerly Utilized Sites Remedial Action Program (FUSRAP)

ADMINISTRATIVE RECORD

for the St. Louis Site, Missouri

U.S. Department of Energy

FUSRAP Document Management System

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