UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

- -

PUBLIC MEETING on Moss-American Superfund Site
Proposed Plan for Cleanup
Vincent High School Cafeteria
7501 North Granville Road
Milwaukee, Wisconsin

- -

PROCEEDINGS had scheduled for 7:00 p.m. on June 21, 1990, Vincent High School Cafeteria, 7501 North Granville Road, Milwaukee, Wisconsin.

Susan Pastor, Community Relations Coordinator, U. S. EPA - Region 5, 230 South Dearborn Street, Chicago, Illinois 60604.

Betty Lavis, 5HS-11, Remedial Project Manager, U. S. EPA - Region 5, 230 South Dearborn Street, Chicago, Illinois 60604.

Gary Edelstein, Wisconsin Department of Natural Resources.

Reported by Ellen E. Walfoort, on behalf of Professional Reporters 1 East Marion Street, Milwaukee, Wisconsin, 53211.

PROCEEDINGS

MS. PASTOR: I think we'll get started. It's a little after seven. We wanted to wait until everybody got settled.

Good evening, everyone. I'd like to welcome you to our meeting tonight on the Moss-American Superfund site.

Tonight we are going to explain to you the remedial alternatives, what we call our clean-up options, that we have available to us for the Moss-American site. We have one that's recommended. We call that our proposed plan, and we also have some others that were available to us, and those came through our Feasibility Study. ANd Betty Lavis from the U. S. EPA will explain those to you a little bit.

And you'll be able to ask questions on those and make public comments on those later on.

I'm Sue Pastor. I'm the community relations coordinator for the site. And Gary Edelstein is next to Betty. He's with the DNR, and he's worked very closely with her on the project.

We have a few handouts in the back of the room. I hope you all picked these up. Our agenda, for example, is something we're going to stick very closely to tonight, so do try to follow along with that and some of the other handouts we have.

We have a fact sheet, this gray piece. It came in the

mail to some of you, and if you didn't get it in the mail, you are able to pick it up in the back of the room.

The Department of Health has also put out a handout on PAHs, and these are some contaminants of concern. And we thought we would have a separate handout to explain those to you, so at least you'll be able to follow along on those.

And about those alternatives that I had just mentioned, we have a separate sheet on those to help you follow through those.

Okay. We have a lot of technical information, and we couldn't bring it all here tonight. Some of it is in this box back here, some of the documents: the investigation reports, the feasibility study, some other things; but if you would like to investigate this further, further than our fact sheet that we have here tonight, we have what we call an information repository, and that's basically a file of all the documents generated. And that's at the Mill Road Library here in Milwaukee.

Now, also our administrative record is also located in there, and that's an even larger file of all the documents that have been compiled throughout the process.

We want to give you an opportunity to ask questions. All the questions that you have we'll be glad to answer those before we moving to our comment period. And I want

to explain the difference between questions and comments. Questions, anything you have on your mind pertaining to any of the alternatives, we'll try to answer for you. And then the comments are basically a statement. If you have a comment you'd like to make concerning the alternative that we're recommending, that would the time to do it. If you have something else in mind, if you prefer another alternative, that's the time to tell us, and tell us why, during that comment period.

Now, if you don't want to speak in front of a group or you don't have your comments together tonight, the comment period -- actually it was it a thirty-day comment period; we've extended it thirty more days. We had a couple of requests to do that. So it will be going now to August 4th -- August 4th or 5th. So you have actually until that time to get us a comment in writing. And in this fact sheet there's a sheet that you could write those down. You could write your comments down tonight too and hand them to us, if you don't want to give it verbally.

There's a sheet in here, and it's a self-mailer, and if you just want to fold it up and mail it to us. You can add more pages if you want. That's just to get you started.

We have a court reporter here tonight, over on the side here. And she's taking down everything we say, so if you do ask a question or make a comment, you'll need to identify

yourself for her. And if your name is a little tricky, if you could spell it for her, she'd appreciate it. And if you represent a particular company or organization, maybe you could mention that too, a governmental body or something like that, that would help her out too. And she won't hesitate to tell you that she can't hear you either, so I've just told her to go right ahead and anything she needs, to just speak right up.

So before we go into Betty's presentation, I thought maybe we could just go over the Superfund process for a few minutes because it's been a while since we've been here.

This is about where we're at tonight. This picture really doesn't mean that we have people out here in moonsuits every time we're out here. It's just a figure, but we're right here at the FS. The Feasibility Study has been completed, and that's why we're here tonight, to present the alternatives on the cleanup measures that were generated during this Feasibility Study.

But before we get to that point, we have a few steps to get us here, like identification. Obviously, a site has to be identified. It's usually called to the attention of the EPA by the State. And from there it goes through what we call a Preliminary Assessment and Site Inspection. PASI. And the Preliminary Assessment is sort of a file search, ny documents or anything that we can find to help us

understand the site a little bit better, any logs, any ledgers, anything -- any documents that just might help us with the history of this site.

And then Site Inspection is basically that. We have people go out on the site and do an inspection so we can get an idea of what's out there, who might be affected, where contamination might be, what it might be, where it might be headed. Just to give an idea what's there.

Then it goes through a rather complicated scoring process, and if it scores high enough, it's put on what we call our NPL, our National Priorities List. And anything on the NPL is a Superfund site. And Moss-American is on the NPL, it's Superfund site. And that makes it eligible for cleanup under the Superfund program.

And then from there it goes through the Remedial Investigation and Feasiblity Study process. And that's a kind of long-term study, where we take a good look at it, we do a lot of sampling, a lot of data analysis, a lot of laboratory work. And after we have that investigation complete, from there we generate some alternatives on how to clean up the site.

And that's where we're at right now. We've got those alternatives, we've got one that we've -- we prefer, but we're here tonight to take your comments. We're recommending one. It's not set in stone. That's why we

have a comment period, to get an idea of what you folks think of the alternative. Think of all of them, think of the one we're leaning toward, but that's what the comment period is all about.

And finally when it's selected, it's documented in what we called a Record of Decision. And that's the document that outlines the cleanup option that will ultimately be used at the site, and then it's designed and finally implemented and put into action. And I don't know if it will look just like this picture, but you get the idea.

Okay. I think we'll have Gary come up and talk a little bit about the State's involvement with the Moss-American site.

MR. EDELSTEIN: Thanks, Sue. I'm Gary Edelstein. I'm an environmental engineer working on the Superfund unit in Madison, and I'm the State project manager. I've been working closely with Betty on the project.

I'll talk a little bit about what our role is in all of this. This project is classified as a Federal lead project. EPA is taking the lead and working on it. And we sort of have a consulting role, where we work with them to provide comments on the reports that are generated, for example, the reports that are in that box, where we do the planning, the investigation, and evaluate alternatives. We've been doing that as we've gone along.

An important portion of that review is we are responsible for identifying any State standards, environmental criteria, laws, that the remedy will have to meet. And we've been doing that as we go along too. For example, there are requirements for, say, a discharge to the river. If we had some sort of treatment alternative that involved a discharge of a waste water effluent, that would be an example of a State standard under our water program.

We are expected by EPA to formally concur with the selected remedy. They want us to do this, and there's a number of reason for that. One of the main ones is that that we are expected, the State is expected to provide a cost share should EPA and the State fail to reach an agreement with the Potentially Responsible Parties at the site to implement the remedy. And we can talk a little bit more later about how that process works, but basically the State and EPA negotiate with the Potentially Responsible Parties to implement the remedy. If they refuse, the State EPA will provide and implement the remedy and then go back and sue later for costs recovered.

If we do not agree with the proposed remedy, we won't provide a cost share and nothing happens.

During the implementation of the remedy, we can act as EPA's oversight contract to oversee the work that's done if

the Potentially Responsible Parties implement the work. We haven't decided yet whether we would have that role. That would depend on our resources available at the time.

Another important aspect is that if the remedy does go -- does not get implemented by the Potentially Responsible Parties, the State must operate and maintain the remedy after it is implemented, and, for example, if there's a cover involved, the site does -- the preferred remedy does involve a covering -- or if there's operation of a treatment system that has ongoing aspects after the main treatment is done, the State is fully responsible for doing that.

Funds that would be used for a cost share or the operation and maintenance comes out of what's called the environmental fund. That's a fund under Wisconsin Statutes authorized by the legislature.

That pretty much sums it up.

MS. PASTOR: All right. Thank, Gary. I guess we'll have Betty talk about our proposed plan as well as all the alternatives.

MS. LAVIS: If someone can't hear me or they can't see, which you may not be able to see too well back there, please raise a hand and Sue will notice and let me know that you can't see or hear what I'm doing.

MS. PASTOR: And if you could hold your questions for

Betty until she's through with her presentation, we'll answer all of them.

MS. LAVIS: The Moss-American site is the former location of the Moss-American facility. You can see back here, this is the site itself. Right here is the Moss-American site. Here is Brown Deer Road along here. And 91st runs through there. And, as you can see, the river enters the northeast portion of the site and then all the way down here to where it's -- it meets the Menomonee River right there.

So the site includes both that upper portion up here, which is approximately eighty-eight acres, and the four and a half or five miles of the Lower Menomonee River, which is located in the northwestern portion of Milwaukee County in the City of Milwaukee. And sixty-five acres of the site are Milwaukee park land, that's undeveloped, and the other portion of the site, the remainder over to the west, is owned by Chicago and North Western Railroad.

And currently Chicago and North Western Railroad is using that portion of the site. It's fenced off. And they have a car-unloading area there.

The history of the site began in about 1921. The T. J. Moss Company initially established a plant on the site and began treating railroad ties and fence posts and similar items. During the time that they were functioning,

which was up until '76 when the plant was closed, they discharged the creosote-laden waste and similar material. Okay. They discharged to settling ponds.

This is where they were working, was up here, this was the raised area at which the railroad ties and such were treated. There was a ditch that ran down through here. This is Brown Deer Road up here. And there were settling ponds out in this area, and these are the heavily contaminated areas. This was discharged into the Little Menomonee River.

And attention came to the site on a national basis in about 1971 when young people engaged in an Earth Day cleanup were wading in the river cleaning up trash and they developed serious burns. And after that there were a lot of investigations at the site. About five hundred feet of the river were dredged, and the settling ponds were also dredged.

The dredging themselves were -- some of them were taken offsite, and other parts of the dredging took place along here, and they went into the area known as the Southeast Landfill and the Northeast Landfill area.

There were continuing investigations up until about 1980 of the on-site soils and the sediment in the Little Menomonee River and the groundwater. And in about 1983 the site was placed on the NPL.

In 1987 we began our field work out there. That was completed in '89, and reissued the remainder of the investigation.

The investigation found the principal threat at the site was the continuing presence of creosote. Now, you have a handout on creosote. Creosote is a very oily material that was commonly used to treat wood products, and the major -- it's about -- contains about two hundred different components, and eighty of those components are what we call PAHs or Polycyclic Aromatic Hydrocarbons, and of those PAHs a portion of those are suspected or known carcinogens, and those are what we're concerned about out at the site.

There is widespread contamination at the site. We have contamination in the on-site soil. This line delineates the extent of that contamination. It extends down usually about three feet into the soil, but it may be as deep as twenty. The on-site soil also extends outward to the Northeast landfill area where the sediments are removed and placed over there, so it's kind of an isolated area.

The groundwater under the site, which is this area through here, is heavily contaminated. It's a shallow, confined -- a shallow meaning it doesn't extend down beyond twenty feet, and as you get down toward the river itself it comes really pretty much up to the surface. It's confined

by a deep layer of clay at the bottom, which extends on down for another sixty or so feet, and this separates it from the regional aquifer, and our deep wells didn't detect any contamination in the regional aquifer.

The groundwater flow is -- that is west over here -- is mainly in this direction through here. So it just naturally flows right out into the river and contaminates the sediment there.

The sediments themselves are grossly contaminated. This extends for the entire lenght of the river. Look at that, this graph, now, this is Brown Deer Road up here, and these are the major roads that cross over the Little Menomonee River through here. And, as you can see, these are all the sampling points on the river. It doesn't really taper off that much as we get down to the confluence of the Menomonee River.

Now, we did do what we call background sampling upstream of the river and in the Menomonee River itself. Both upstream and downstream from the site. Background is a term for levels that we would find away from the source of contamination. In this case it isn't a naturally occurring background because PAHs are not naturally occurring substances.

We found in the river that in the main Menomonee River upstream of the site there's already existing levels, not

very high, but already existing. Downstream from the site they actually tapered off. So when we were defining sites, we did not included the Menomonee River itself in that definition because we didn't feel that there was a great deal of contamination being contributed by the Little Menomonee River.

The surface water itself in the Little Menomonee River does not appear to be contaminated. This is in keeping with the nature of the Poly Aromatic Hydrocarbons because they are dense, they tend to sink down into the sediment. So unless the sediments themselves are stirred out, if you were to go out there, take a stick, stir the sediments up, then you would get this upwelling and a surface sheen down the river. But until there's some kind of disturbance, then the water itself is not contaminated.

The risks, of course, at the site are related to the Poly Aromatic Hydrocarbons, the carcinogenic ones, and we did a risk assessment at the site. This is required by Superfund laws at every Superfund site. It's a very formal process, and it's a very conservative estimate.

We look at the contaminants at the site and the nature of the contaminants, the levels to see if they exceed State or Federal standards. And we look at the -- we consider the exposure pathways, those groups of people or the environment or whatever that would be exposed to the

contaminants, and then we determine if a threat exists and what degree of threat there is for public health in the environment.

The Remedical or the Risk Assessment indicated that the exposure routes at the site from these contaminants were direct contact; their inhalation, if you had particles that were disturbed and suspended in the air breathed in, that would be inhalation route; or through ingestion, either of the particles themselves or of the fish or wildlife that you would be eating.

Those most likely to be exposed would be visitors to the site, recreational users, children, who we know use the site because we found the tracks of dirt bikes out there and other evidence that children did play on the site, and we found in the river itself inner tubes tied up on trees to swing across the river, I presume. So we do know that children and other visitors do use the site. There's also a fishing trail along the river.

In the future if the site were to be used and not to be remediated, at least the full risk assessment is based on other remediated sites. If there was potential development on the site and there was no remediation that would take place, then those -- the workers, if people were to build them on the site, then they would be at high risk because they would then be exposed to the subsurface soil. And

that's the risk that was mentioned in the proposed plan, the three additional cancer cases per 100 people. That would be for extreme use of the site, a long-term, close contact.

The risk assessment found that the immediate threat or risk at the site is low, except if you do come in contact with the sediments themselves or the groundwater in some way. The risk is more repeated, long-term use, if you were to be living on the site or something like that.

Well, now that I've sort of explained the problems and what the risks are out there, you probably are wondering what we're going to do, unless you read the proposed plan, then you're way ahead of me and already know what we're going to be doing out there.

There has been discussion, a lengthy discussion over the years with Wisconsin. And Gary was too modest he when he was talking about his involvement in the site because all of the Wisconsin Department of Natural Resources people have been very involved in this and the discussion of remedy, possible technology we could use there, and how we were going to do it.

And we did consider a number of possible actions or combinations of actions. But the choices, the basic choices, are pretty simple. We can contain it. Or we can treat it. Or we can burn it. And there is not much else

that can be done.

You all have copies of this probably anyway. The Feasilibity Study which was adopted and it followed the Remedial Investigation report developed three alternatives based on those three options. And this is the alternative that we're suggesting.

There were other alternatives that were -- What is the word I want? There were vast number of alternatives that we looked at originally, and then we went through a screening process, and the screening process compared these, all the massive alternatives against the nine criteria, which I'll talk about later.

The containment option, which is Alternative Two, the problem with containing it, just containing it, it sounds like it would be a good option, but it doesn't treat the source. So we're not removing any of the contaminated materials, they are just being contained in place.

The river is rerouted, and the river itself, the old channel, turns into one long landfill, actually is what would happen to it.

Since we don't treat the materials that are on-site, the groundwater treatment becomes very difficult because there is a continuing contamination of that groundwater that I showed you earlier, and to clean it up could take two hundred or more years. In fact, we think it might take

in excess of a thousand, which is not really reasonable for a groundwater treatment program.

It is the least expensive of the alternatives: $15 million.

If we were to incinerate it, that would, indeed, get rid of the source of the material, it would destroy it, but it's also a very expensive alternative, $89 million, and it isn't really more protective of the environment and public health than some of the treatment alternatives.

We looked at a lot of different treatment alternatives, and we finally settled on a biological treatment which has been used around the world at wood treating facilities. It's a very traditional way of dealing with their waste. Usually it's more land-based, and it takes a long time to do it. And there are -- fortunately there are now some techologies that speed up the process and are more effective, but they're also more effective about treating the PAH's that we've been talking about, particulary the carcinogenic ones that are a little more difficult, they are a heavier molecule, they're more difficult to treat. So this is more effective in treating it.

I'll go through the nine evaluation criteria that we used to compare the alternatives.

The first thing -- looked at some of that we put more weight on than other -- and certainly it has to be tested

and proven. If it isn't, it's not really going to be of much use. We also have to comply, just like anyone in the private sector does, with all the applicable or relevant and appropriate requirements, and those are known as ARARs, for obvious reasons, but you can choke on them when you're trying to say it all. And the remedy that -- all the remedies that we have, all these six alternatives that we have presented here would comply for the most part with the ARARs.

We look at how effective it would be or what the problems would be for the short-term; for the period of time that we would be out there doing construction and working, does it can you undo risk to the public health or the environment; is there some kind of impact that we really shouldn't be exposing people to.

And we look at the long-term effectiveness to see what's going to happen fifty years down the line, which is the problem, of course, with containment. If there were development on-site, then long term it won't be effective.

And cost is used more make sure that we get the most for our money. If you're comparing alternatives and what is more effective than another but costs a lot, it might be dumped at that point on the basis of cost.

Implementability, we have to be able to do it out there. Maybe it's a great remedy, but for reasons like we

can't get the particular materials we need or maybe there's a sole source, meaning one company we could get something from and that would be a great difficulty. Or it just maybe very hard to do something at the site because of geological reasons or structural reasons, those kinds of things.

It's also very important that the State agree with the remedy selected, as Gary explained.

And the community acceptance is an important part of it. If the community is opposed to the remedy, then we don't want to use that one at the site. When we were considering incineration, for example, most communities are not really very excited about having an incinerator present. So that would be a consideration for that alternative.

The one that best met these nine criteria, at least in our opinion, was the preferred Alternative Three A. It is also in our proposed plan.

The elements of the preferred or recommended alternative -- and you can see it reroutes Little Menomonee River-- it removes -- and I'll talk about that later after we just go through these -- it removes and biologically treats the highly contaminated sediments and soil on the site and then takes the treatment residue and what remains here and covers it back on the site out of the flood

can't get the particular materials we need or maybe there's a sole source, meaning one company we could get something from and that would be a great difficulty. Or it just maybe very hard to do something at the site because of geological reasons or structural reasons, those kinds of things.

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The one that best met these nine criteria, at least in our opinion, was the preferred Alternative Three A. It is also in our proposed plan.

The elements of the preferred or recommended alternative -- and you can see it reroutes Little Menomonee River-- it removes -- and I'll talk about that later after we just go through these -- it removes and biologically treats the highly contaminated sediments and soil on the site and then takes the treatment residue and what remains there and covers it back on the site out of the flood

plain. The sediments that are left in the riverbed will also be covered over with soil that's excavated from these channels.

We'll be collecting and treating the groundwater, the contaminated groundwater, and discharge it to the sanitary sewer. We have limits that Wisconsin has supplied us with. We may also discharge it to the river, if the sanitary sewer is not an option. And we'll be treating and exposing that Northeast Landfill area too on the site.

The cost of this remedy would be $26 million. And it takes three or four years to complete, except for the groundwater option, which will take longer, the groundwater portion of it will take longer. It will take at least five years and possibly ten to complete the groundwater, but once we have complete the construction on-site, the groundwater portion of it will be a very small, ongoing treatment facility.

Now, for the rerouting of the Little Menomonee River, I have a slide here that is good. This shows the main Menomonee River here. The Little Menomonee River runs through here on the blue line. The rerouting will be very similar -- will be very close to the Little Menomonee River and is going to be done to the existing channel. It's going to be done in segments.

MR. EDELSTEIN: Page Five of the fact sheet has a

drawing.

MS. LAVIS: Okay. So the Little Menomonee River along here will have the new channel dug very close to it. And at each point, each crossroad here, for the reason that we certainly can't move bridges, and it's very narrow under there, the new channel will tie back into the old channel. At that point the existing channel will be well cleaned, we will have to take all the contaminated sediment out of this, and a hydraulic barrier will be placed in the existing channel to make sure that the water from the new channel doesn't slip over into the old channel at that point.

When we're digging the new channel, the soil from that new channel will go between the new channel and the old channel until the entire clean-up is completed. And then they will be moved over, filling up the old channel. A dam will be placed at each section to prevent the water from flowing down through that segment on a temporary basis, and a conduit or pipe of some kind will then run that water around and into the next segment. Those will, as I said, be done in segments. Each section will be completed, and then the water will be rerouted through the new channel and the old channel filled in. And this is true for each one of these segments going on down.

Now, some of the alternatives talk about not rerouting

the river, and there's some very good reasons for rerouting the river. One is that if you have looked at the river itself, if you've walked the site, you know that for most of it it's pretty much a straight shot through there. It doesn't have bends, it doesn't have meanderings. It's very much like a ditch. And there is a good reason for this, because over the years it has been dredged, it has been worked on to kind of come up with this configuration. And the new channel that we're planning would more closely resemble the channel that existed at one time back in history.

The existing channel is also quite deep in places, since it has been dredged out. If we were to dredge it out some more and remove the sediments from that river, it would get deeper and deeper, and you might have something that would resemble the Grand Canyon there, and it would take a great deal of soil to fill it back in, to raise it up, to contour the banks. And Wisconsin DNR Resources people have been concerned about the habitat out there. They would like to see the wetland and the wild habitat restored to the condition that it must have been in at one time.

So we're trying to remove the -- I think I already said this -- but trying to remove all of those sediments is just going to create a problem there, and it's easier to dig a

new channel and start all over again so we can contour out the banks, we can add in meanderings and the streams and the little pools and everything that fish like and wild creatures that would create habitat for the creatures that live there again on that river site.

Sediments from the river from that old channel are going to be brought back on-site to be remediated. And that's going to be done in the slurry bioreactor, which is a strange name for that system, but thereis no reaction in the reactor. It's a natural process that's being augmented by oxygen and fertilizer for the bacteria and such, and the bacteria that are out there now are trying break down, the Ploy Aromatic Hydrocarbons. It's just part of the process.

They don't have the best possible conditions to do this in, so the system that is being suggested would augment it. This is the picture up here. I don't know that ours will look particularly like that, but actually this looks a bit ominous. This was taken at sunset. But these are big tanks, and these tanks contain water and they contain the bacteria, and they contain an airation system on-site.

And the soil and the sediments that are brought back on-site to be treated go through a two-part process. They're first washed, and the debris is separated out and treat separately. Then the soils that are remaining and the water is mixed together in a proportion that gives you

a kind of slurry or thick mud.

This mud is then brought around and placed into the tanks themselves and mixed up over a period of time. It takes a few days. And we have a pilot study we'll be doing to determine how long this will take.

We would be doing testing to determine if clean-up standards have been met, and when they have, then that batch will be emptied out of the tanks and dewatered and put back onto the site, and the next batch would go in.

As I said, I should mention too that because of Wisconsin winters the active bacteria do not like to be cold particularly. We'll only be able to do this process during the summer months when it's warmer. When it gets too cold we won't be able to run the slurry bioreactor. So the time frame is taken into account in the three to four year we think we'll be out there.

I'm sure you probably have more questions about most of the alternatives and the bioractor method, and there will be plenty of time to ask those questions.

I think Gary pretty much went through this, but we'll be asking the responsible parties to pay for this cleanup. And if they decide to do that, then they will decide how they will divide it up. If they don't agree to pay for this cleanup, then we'll use the court to order them to do it, or do it ourselves and then we will ask to be

reimbursed.

That's really about all that I have to say on this, and I'm sure you have lots of question, so I'll turn that back to Sue.

MS. PASTOR: Well, Betty, later is now, so if anybody has a question, again, to help the court reporter out, if you can state your name and maybe who, if you're representing, and spell your name. And if you speak more than once, she needs to know again your name, so please let her know.

This gentleman right here.

[redacted] My name is [redacted] Now, we've got some groundwater that's contaminated. Now, how deep does that go? Does that go down to our aquified level or to our saturated levels? How deep -- Did they determine the depth of this thing?

MR. LAVIS: It only runs down about twenty feet and extends out to about two hundred feet.

[redacted] Well, see, if it's aquified levels that's contaminated down there, because they are natural sponges down there where your groundwater --

MS. LAVIS: No. There's a confining layer.

[redacted] Pardon?

MS. LAVIS: There's a confining layer. There's a confining layer between the groundwater plume that's

contaminated, and it runs down sixty to a hundred feet.

[redacted] Well, the -- you've got contaminated groundwater below the groundwater is a saturated area, and below the saturated area is aquified area, which is a sponge area, that has to be satisfied before the saturated area is satisfied to keep our groundwater. Now, if that groundwater is moving at a foot a year, it's going to take take forever, unless they removed that contaminated water.

MS. LAVIS: Oh, I think I see what you're saying. The -- Part of it will be removed. Part of it will be picked up and included in the cleanup. That would be part of that soil there.

[redacted] My answer to this would be to -- probably be either the Alternative 5 or 6 would get rid of this stuff once and for all and fill it in. Don't disturb that river. What kind of damage are we going to be doing to the trees on either side of this if we move, reroute the river?

MS. LAVIS: So you're talking about the river rerouting specifically now?

[redacted] Don't rerouting the existing river. Clean it up, get rid of that damn contaminated water. That's our problem. It's going to be moving right down. It's going to keep on moving unless we dig it out of there.

MS. LAVIS: Well, There will be a cutt-off wall as part

of the groundwater treatment. There's a cut-off wall, a geo-mebrane that's going to be placed along the river.

[redacted] Will that be able to stop those --

MS. LAVIS: Yes.

[redacted] And keep those to the lower level?

MS. LAVIS: Yes. That would be down to the hard layer.

[redacted] The Aquified layer is the lower layer.

MS. LAVIS: It would be piped down as far as it needs to be to get on-site contamination --

[redacted] We won't get rid of that groundwater, contaminated groundwater. The saturated area is going to be contaminated, and so will the saturated water --

MS. LAVIS: This will all get rid of that.

[redacted] -- so we should get rid of the contaminated water.

MS. LAVIS: That's what we're doing.

[redacted] And you'd do that by Alterntive 6. Which is the most expensive, by the way.

MS. LAVIS: That's a consideration.

[redacted] But it will be less maintenance cost in the end, and it will be used for existing -- like you said, the Grand Canyon -- so we could use it. You're talking about thirty-three thousand cubic yards on Alternate 5, so how much would we need in Alternate 6? Alternate 5 and 6 are about the same except Alternate 6 says get rid of the

contaminated water, which is our big problem. That's --

MS. LAVIS: Five gets rid of it. All of the alternatives treat the groundwater.

[redacted] Well, Six is about the most complete if we want to get rid of our problem.

MS. LAVIS: That's true.

MR. EDELSTEIN: Well, under all the alternatives, even under Alternative 6, there would still be some residual deeper contamination, and you would not be able to remove physically and incinerate, and you would still have to collect that contamination in a groundwater collection system. And over a period --

[redacted] There you would be maintaining like once a year, and it would cost only $18,000. That would probably be the cost of a --

MR. EDELSTEIN: That includes the cost of treating that collected groundwater. There would be a small amount that would continue to be collected.

[redacted] Versus $130,000. I know we're spending $86 billion, but I'd rather do it the right way than go that way and get a half a job done. If you're going to do it, do it right. That's my opinion. If anyone doesn't agree with it then --

[redacted]: [redacted] the area. I have to say I am happy to say I never fe

the river, but I used to play along there quite a bit.

But I'd like some comments concerning the dredging that you're talking about as that allegedly has modified the direction of this river. I'm aware of some dredging that took place around 1970, I think, when this was first discovered. And I believe it was done by a volunteer who camped out there for about six months. Anyway, and he -- this person I believe voluntarily dredged this river on his own time. Can you comment on that, that dredging or any others of which you know?

MS. LAVIS: I'm sorry. What did you want me to say about the dredging? We know that all that dredging took place.

[redacted]: Well, what other dredging are you aware are of other than that?

MS. LAVIS: Oh. Apparently there's been dredging that took place prior to that, back in the early 1900's. The corps of engineers sees some straightening. That was my understanding from talking with some of the Wisconsin DNR people.

MR. EDELSTEIN: The stream has been straighted and modified many times over its length, mainly to improve its flooding characteristics and for agricultural purposes. And that's very typical in Wi[illegible]in that the streams will be straigntened and channelized.

[redacted]: To prevent flooding?

MR. EDELSTEIN: It was considered a flood control measure and also some more land could be farmed so you wouldn't get, like, wetlands. It's a draining feature. Very common in this state.

[redacted]: Thank you.

MS. PASTOR: Okay.

[redacted]: My name is [redacted], and I lived in this area when I was a boy. We lived on a farm. And we used to go skating in the river and hunting and everything else, and there was never any thought of any harm. In fact, some of my friends' fathers worked at the tie plant. And I just was wondering when all this took place. I mean, we used to think it was a pretty good thing that the people were working out there, had a job, during the depression, and like I said, it just didn't bother anyone. And we had -- We all had wells, and nobody complained about contamination of wells.

MS. PASTOR: So when did we discover a problem basically?

[redacted]: Yeah.

MS. LAVIS: I think probably 1971. That seems to be a date which set off all the investigations and such because I think there was suspected problem out there because the DNR went out there, they said you need to do this and that.

[redacted]: Is the problem that bad that we're going to spend $36 million to correct it? I mean, we're living out here now, a few blocks from the river, and I pass the river, I ride my bicycle through the parkway, and I don't see anything so bad about it.

MS. PASTOR: I think it's only 26.

MS. LAVIS: Only 26.

[redacted]: Only 26? Another thing, when we lived out here they said there was three or four other or so of those creosotes tie plants around the country. Now, what have they done about it? Have they looked into that at all?

MS. LAVIS: I think most of these plants are having to clean up.

[redacted]: They have been cleaned up?

MS. LAVIS: No. They are in the process or have to be cleaned up. A lot of the sites are a form of treating facility, and that's a very common problem.

[redacted]: I mean, we might be able to gain something from what some of these other people --

MS. LAVIS: Well, in this case we have a whole river which has been contaminated, and that's not -- other places they don't have so much -- or they don't have that kind have a gross contamination.

And it seems very likely that you wouldn't particularly be bothered with it until -- it wouldn't bother your

groundwater anyway. It's a contained area where the contaminated groundwater is, and it's feeding right into the river. So it wouldn't affect your wells anyway. But it's more of a problem of a continuing source of contamination for that river.

MR. EDELSTEIN: Our understanding is that that stretch of river is essentially a fairly dead stretch in terms of aquatic life living in there. And people who are walking along may not notice that. The creosote generally settles to the bottom of the river, so over the years this discharge has been there, but you don't notice it unless you're right up at the plant and you saw the oil going into the river.

We have historical reports of that sort of thing, where people would call and complain they see oil by the site. That's very common. But once got downstream where it has a chance to settle, you wouldn't see it. So from a visual standpoint, you're right, it doesn't seem like much of a problem. You could still go ice skating, and there really is no way it could get into the wells because of the confined nature of this area. A lot of the soils there are clay, and it's high groundwater, everything tends to flow generally right into the river, so it becomes a surface problem.

[redacted]: The other thing I'd like to know, who are

the responsible parties, the potential responsible parties?

MS. LAVIS: The ones that we have identified are Kerr-McGee, who owned the facility --

[redacted]: Who are they?

MS. LAVIS: Kerr-McGee Corporation. They own the facility. And the County of Milwaukee because -- Well, Kerr-McGee owned and operated, and the County of Milwaukee, and the Chicago and North Western Railroad now owns the property, so they also --

MS. PASTOR: By the way --

[redacted]: Was it Kerr-McGee that polluted the --

MS. LAVIS: Right.

[redacted]: I think that's the people you need to go after.

MR. EDELSTEIN: Well, they bought the facility from other people before them.

[redacted]: But they were the last ones.

MR. EDELSTEIN: Well, the bought the facility from other people before that. But they were the last ones.

MS. PASTOR: By the way, anybody who -- any PRP would be anyone who owned it, operated it, generated waste, transferred or hauled during the course of its operation. So that's why we have these three. And if there were more to be identified, we would bring them in as well.

LAVIS: It's clearly defined by law who is a PRP.

We don't arbitrarily make that choice. The law says certain people, owners or past owners or past operators, are PRPs.

MS. PASTOR: Anyone else have a question?

[redacted]: My name is [redacted]. I'm a [redacted].

I'm a little confused by the numbers that are illustrated here. You talk in your proposed alternative of bioremediation and soil washing and 86,00-some-odd cubic yards, and yet in the incineration one you're going to treat 163,000. Please explain the difference.

MS. LAVIS: The volumes are decided by -- or the volume changes according to what we're going to treat. We're treating to risk- or health-based levels.

[redacted]: I'm sorry. I didn't hear.

MS. LAVIS: We're treating to health- or risk-based levels, and so different alternatives treat a different amount of soil that's contaminated to certain levels.

[redacted]: Are you implying that the 86,000 cubic yards of remediation will not be as copmlete as the 163,000?

MS. LAVIS: It reduces the risk to what we consider to be an acceptable level. And the rest of it will be ntained, and it won't be available for contact, won't be ntaminating.

[redacted]: Why couldn't the incinceration reduce the risk to the same level? I don't understand. How can you reduce a risk if you're not going to treat it?

MS. LAVIS: But we are treating it.

MR. EDELSTEIN: I think part of the reason why there's a difference in volume, the main reason is not just the risk level, but I think -- Alternative 3A involves river rerouting; alternative 6 involves river dredging. Okay? With the river rerouting alternatives, especially 3A and 3B, we're looking at only treating the grossly contaminated sediments. It's going to get most of the mass of the creosote. We're going to get most of the contamination. Okay? But we're not going to get it all. And that's okay because we're going to be rerouting the river. Except at the crossing points, that's where we're going to get it all.

So for the incineration alternative, you're going to treat all the sediments. That's a larger volume. And I think it is, what, the six thousand or so yards that are grossly contaminated.

The soil that's going to be managed for Alternative 3A is also just the grossly contaminated soil. That is the major mass of contamination that's going to be treated; whereas Alternative 6 we're talking about treating all the soil in the incinerator.

What will happen then is after we get most of the mass and most of the contamination under Alternative 3A, there will be a small amount of residual contamination, large volume of soil, small amount of residual contamination, that will be managed by this groundwater collection system we're talking about so it doesn't get into the river. That's the main reason why there's a big difference in the volumes.

Does that help you?

[redacted]: I don't know. I have some questions.

MS. PASTOR: Well, let's give someone else a chance, and then we'll come back to you.

[redacted]: My name is [redacted]. I'm a resident of [redacted].

I have a question about the new stream bed for the Little Menomonee River. In your fact sheet under implemenation you say that all four alternatives use demonstrated technologies that are available. For the Little Menomonee River you're talking about building a new stream bed that you say will approach more natural conditions existing prior to dredging. I'm wondering where there are other examples of this having been demonstrated and are they Superfund sites?

MR. EDELSTEIN: I can't think of any Superfund system sites for the system --

MS. LAVIS: No. I think this is fairly unique for a Superfund site. It certainly is done. There are a lot of rivers that do get rerouted. The corps of engineers have done a lot of that thing. But I don't think any Superfund sites.

[redacted] You say there are examples of rivers of being restored to the more natural condition than before --

MR. EDELSTEIN: Yeah. I've read about that happening in other locations. They've actually done that in Florida. In Florida they've installed canals, historically, to drain wetlands so the land can be developed, and that's caused a the lot of problems down there. And what's happening is that as a result of that the corps is going back and restoring these channels to what they originally were.

[redacted] And this river, no, I'm not aware of any in Florida.

MR. EDELSTEIN: I thought they had done it. Maybe I'm wrong.

MS. LAVIS: I thought there was one in Arizona, that at least they were seriously considering doing that. But it's sort of a new concept. Historically we've been channeling these things straight through in order to supposedly control -- flood control, and now we're realizing that's not the best approach, and now there's a trend back toward rerouting rivers to their natural condition. But certainly

not any Superfund site. This is a little unique for that.

[redacted]: If I were to contact you, could you tell me some non-Superfund sites?

MR. EDELSTEIN: I can check with our water resource people and see if there's any place in Wisconsin where we're doing this.

MS. PASTOR: If you leave your name and phone number, maybe one of us, Betty or Gary, could call you.

One of folks in the back. The gentleman in the red hat.

[redacted]: My name is [redacted]. I've lived out here along the river all my life. We did have problems, you poke the stick in the ground and see the oil come up. And it wasn't all my childhood. And rerouting it means about -- what kind of distance span are we talking here, fifty feet, a hundred feet? Where is it going to go?

MS. LAVIS: Well, it's going to vary. It -- Steve, did we come up with the actual dimensions for the distance between, or is it just going to tie back in? There's going to be at least thirty feet between, right?

[redacted]: My name is [redacted]. I work for an engineering firm in Milwaukee who provided some technical assistance for the EAP and DNR. And that the actual dimensions would not be determined at this point, and there will be a subsequent way to -- th epreliminary design -- at

which time that would be looked at in greater detail and start honing in on it. But probably just as a rough cut could be fifty feet, a hundred feet, something like that.

[redacted]: The other question I had, you're talking about putting the meanderings back in. Is that going to cause any flood problems, because I know I personally have seen this river come up three quarters of the way in the springtime, even, like I say, dredged, the way it is.

MR. EDELSTEIN: Yeah. There will have to be an analysis done to determine what the flooding impacts will be of the new alignment, and it will have to be designed to make sure that doesn't occur. And there will -- they will have to -- when the stream is rerouted they will have to meet all the State and local regulations, and there are very stringent flood-plain regulations in the State that would assure that that would not occur. But we don't have the details on that. That would be during the design.

[redacted]: And you try to get as much local labor as possible on this too?

MR. EDELSTEIN: Well, generally these -- something like this I would think that there would be a good chance that it would be a local contractor because it's straight forward. Some of the more exotic technologies that we use we sometimes don't have a choice, we have to go out to a vendor that may be out of state.

MS. PASTOR: Okay.

[redacted]: I want to ask -- [redacted] again. On Alternative 3 A and B would -- now they're going to cover that existing river and reroute it, correct? That's one of the alternatives? What's going to happen to that creosote that's still laying on the bottom of the river that they will be covering up? It's still going to be down there, right?

MS. LAVIS: We'll dredge the old channel.

[redacted]: It will still be down below there where it is right now. All they're doing is going to be covering it with the new river bed. They're going to just put it on top of there, and it's still going to be there, right?

MS. LAVIS: No. Most of it will be dredged out. Most of it will be removed.

[redacted]: Well, why don't we just use 6 and get it over with? Because you're going to go and just dump the old on the contaminated creosote, you're not going to correct the problem then. You're going to have to get rid of that stuff.

MS. LAVIS: Well, I think in the old river bed we're going to be removing almost all of it, and the rest of it is going to be mixed with a solidifying agent. We're also going to do some pilot studies. It doesn't tell you all about it in there. If it told you all the details, it

would be --

[redacted]: Well, the fact that they get rid of that damn groundwater problem, which is going to go right down to that Northeast Landfill, it's going to go underneath the ground into there, and it's going to be contaminated down there. You put up some kind of a barrier, it's going to get below in that saturated zone, and that groundwater -- I've been reading up on groundwater. And it's the reason why I'm so interested, because of the fact that there's so many myths about the streams underneath there with water underneath, which is not true.

And it just -- the water collects in it and it runs downhill at all times. And it could be ten yards wide or a hundred yards wide, and it moves probably about a foot a year. So how long is it going to take before they can clear that up if they don't get rid of that? The water has been sitting there now. You're not going to get rid of it.

MS. LAVIS: Well, we think that our groundwater method will get rid of it.

[redacted]: If you clean up the ground now.

MS. LAVIS: Well, we're going to remove a great deal of that.

[redacted]: You might as well get rid of all of it.

MS. LAVIS: Okay.

[redacted]: Okay, That's --

MS. PASTOR: Back there.

[redacted]: [redacted]. I'm a native of [redacted]. How far south were you able to document contamination on the site?

MS. LAVIS: How far south?

[redacted]: Yes. How far downriver?

MS. LAVIS: In the Little Menomonee River?

[redacted]: It goes farther than that. I mean, the river goes farther than that. What I'm saying is how far south were you able to document contamination from the site?

MS. LAVIS: We didn't document contamination from the site in the big Menomonee River. Actually the levels dropped off.

[redacted]: But I asked a question differently. How far south did you do sampling analysis?

MS. LAVIS: Well, we did sample down from the conduit quite a way. Steve or Don, do you know how many hundreds of feet or whatever? It's in the FS.

[redacted]: Quarter mile, half a mile. [redacted]. And I work worked on the report. Probably half a mile. And background sediment sampling, we sampled the Menomonee River, we took samples downstream from the confluence of the Little Menomonee. My recollection is that it was about half a mile farthest downstream we went in the sampling.

MS. LAVIS: There is a whole appendix in the Feasiblity Study that talks about the background sampling that we did, and you could -- we can look at that later and see the results.

[redacted]: Just to follow up on that question because I was looking at the southern boundary of the Menomonee, and it looks like it's Hampton Avenue; is that right?

MR. EDELSTEIN: That's where the confluence is. And the contamination in the Little Menomonee extends all the way from the site to the confluence. But beyond that we really couldn't find anything.

[redacted]: Okay. But there was something on at least one block south of Hampton?

MR. EDELSTEIN: Yes.

[redacted]: How far south of Hampton Avenue?

MS. LAVIS: That was like a half a mile or a mile down.

MR. EDELSTEIN: Well, it was also done closer to.

MS. LAVIS: Oh, yeah. It was closer.

MR. EDELSTEIN: It was done up close too, and couldn't find any. See, the flow in the Menomonee River is a lot greater and the dilution is greater, and I guess if there was -- I'm sure there was some stuff that was carried downstream, but you just don't see it.

MS. LAVIS: The values weren't any different really

downstream from the site, except that they decreased a little bit, than they were back up the Menomonee River where the Little Menomonee had no influence.

[redacted]: Thank you.

MS. PASTOR: Give you another chance here.

[redacted]: [redacted] again. This bioremediation technique, by whatever you want to call it, has it been used in the state before?

MS. LAVIS: Yeah. They have used it before. They're using it at New Brighton in Minnesota. They are using it in Texas and Florida. Do you remember any other places they're using it? This particular -- I think that they've used versions of it in Oregon and Washington but more for PAH contamination. And there's also versions of it that are being used in Europe.

[redacted]: Just to follow up, I want to stress the point that I have not yet accepted your cubic yardage problem. It doesn't make sense. But let me go on to say have you explored the success that was achieved at the site in Mississippi in which the contamination was the same as it was here, although I will accept that I don't believe they had a river contamination. But given that you're going to dredge the river in either scenario and bring it on land, you're going to treat it by one of a number of different methods, and if you have not investigated that

Superfund site, I would suggest that for cost savings and efficiency that you do so.

MS. LAVIS: Did you know the name of the site? Which site is it?

[redacted]: Pardon me?

MS. LAVIS: Which site is it?

[redacted]: It's called the Prentiss Superfund site in Mississippi. Creosote contamination. It was smaller, but the contamination was the same.

MS. LAVIS: Okay. Thank you.

[redacted]: If I may, one more then? Where did you get your data for your estimate? Who compiled the cost figures for your estimate when you compared these various alternatives?

MS. LAVIS: CH2MHILL.

MS. PASTOR: Someone else have a question?

[redacted]: How does temperature affect the bioremediation on the creosote?

MS. LAVIS: The bacteria like to be warm, so as the temperature decreases, the efficiency goes down. There is an optimum temperature, and then there's a temperature range. That's why we wouldn't be running the facility in the cooler months. Unless we develop some

[redacted]: [redacted]. Okay. Then this, say, normally I believe for a maximum operating efficiency on

this is 70 degrees Fahrenheit. Now, for complete destruction you're supposed to have something like 200 70-degree days plus. What happens here in this area? We only have about 120 days, and then we have winter, and it goes down. Do they go into hibernation then or -- and get activated when it warms up, or do they get destroyed by the cold weather?

MS. LAVIS: Well, it's not same bacteria all the time. I mean, we start the whole system again when it warms up. We are not just using the same bacteria and just letting them get cold and starting up again.

MR. EDELSTEIN: We actually -- here's another detail which didn't talk about -- there are many of them for the site -- but as part of the investigation for the site, there were actually lab-scale treatability studies done on the actual material to determine if these technologies will work. And there was a small lab scale, bench scale treatment tank that duplicates this process that was run, and they were able to determine the treatment times. I don't remember what the numbers were. Steve, they -- the degradation will occur within a season, right? I mean, they won't have too -- It's much shorter than one summer, so you should be able to do several batches in a season.

[redacted]: How big are your batches that you're dealing with?

MS. LAVIS: It depends on sc many things, like the size of the reactors, how many, whatever. But that's all calculated out when they say that it's going to take three to four years, that was taken into account. That wasn't like three or four whole years continually. We look at this in terms of how much can be done in a season.

[redacted]: Okay. How effective is this method in the various Wisconsin areas? Say you have a soil super saturated with creosote; how effective is this method on attacking creosote and breaking it down?

MS. LAVIS: We have to make sure it's is a fine consistency. We wouldn't just throw a bunch of the contamination with a sheen on it.

[redacted]: So you have to have a certain parts per million per tank?

MS. LAVIS: There's a range. For blending and things like that. There's a range.

[redacted]: Okay. Prentiss, Mississippi, was on a river. It was a tributary for the Mississippi River.

MS. PASTOR: This gentleman.

[redacted]: My name is [redacted]. I'm a resident of the [redacted]. I'm also a lawyer, and I'm here on behalf of the Chicago and North Western Railroad, who, as already mentioned, owns a part of the land here.

The Chicago and North Western, as you know, bought the property in 1980, and their position according to when they bought the property is they thought the problem was taken care of in the mid-seventies, which I think you're aware some work was done at that time.

They have been operating a facility on that property which involves basically the loading and unloading of new automobiles, and then trucks come in off the service road and service the local area car dealers in southeastern Wisconsin. We contract that work out to a company called E and L Transport, I believe, is the name.

Over the last ten years we've been unaware of any problems with regard to health effects or anything like that with respect to the workers.

My question is this: Did your risk assessment take into account the possible exposure to the workers who are working on the site to the dust and other effects from the bioremediation process and rechanneling and the dredging and the digging up and everything that you hope to accomplish here? Has that been taken into account at all? The exposure to people working on the site, and, in addition, exposure to people who reside in the surrounding areas. Has that been taken into account?

MS. LAVIS: Well, I think so, yeah. It's not part of the risk ass nt per se. The Remedial Investigation

tells you what the risks are and exposure routes. But as part of the health and safety plan, as part of the design, the remedy, that was a very important part of it.

[redacted]: And what have you determined with respect to any harm which may result to people either working on the site or people who live in the area?

MS. LAVIS: Well, we have to keep that from happening by keeping areas barricaded off in certain ways, by making sure there isn't it dust blowing around. That is just part of the process that we have to do in every site where there's contaminants, and because at Moss-American there is a lot of playing, working, and construction work, you have to put up barriers and do the things that are appropriate to protect the public. And that would be very much a part of this treatement. And it would come about in the design aspect again. We know it is possible to do this, we know how to do it, but how much we have to do is coming out in the design.

[redacted] I appreciate your concern to prevent any exposure to anybody. My question though is whether you analyzed that and have taken that into account in any of your six proposed alternatives; in other words, as a hypothetical.

MS. LAVIS: Yes, it's been looked at.

[redacted]: Is Alternative 2, will that present

more exposure than Alternative 5, or something like that?

MS. LAVIS: Well, do you remember the nine criteria?

[redacted]: Yeah.

MS. LAVIS: There is a lengthy evaluation in the Feasiblity Study on the nine criteria, and we go through the short-term effects. And short-term effects are --

[redacted] you talked about what the effects can be, but my question is have you determined -- Let me be more direct. Have you determined that there will be absolutely no effect on anyone working on the site or any of the surrounding neighbors?

MS. LAVIS: Is anybody ever able to speak in absolutes, except for attorneys?

[redacted]: Well, I'm not going to say that. But it's a concern because we hire a company to do a job, and there are worker out there who are loading and unloading automobiles on the site. On the site that you propose to dredge up. In fact, part of the process, if I understand it, is to actually to go into part of our area, so to speak, and dredge out that area.

MS. LAVIS: That's true.

[redacted]: And they're going to be there, and they're going to be working. That's their job there like they have done for ten years. And we would like to know perhaps the neighbors and residents do too, whether

that's going to be a threat to that whole process.

MR. BELODY: Yeah. Okay. Maybe I can address that for a second. This is Doug Belody (phonetic) with EPA. At Superfund sites when we do risk assessments, basically what we look at are the worst pathways of exposure, and on the Moss-American site we perceived the worst pathway of exposure were ingestion of contaminated groundwater and direct contact and exposure to sediment.

As far as air inhalation is concerned, what you're talking about was not considered a primary pathway of exposure. And that's not to say that it isn't a pathway of concern. What it's basically saying is there are two other major or more critical pathways of exposure that the agency did an analysis on.

MR. EDELSTEIN: No. He's talking about during the implementation of the remedy.

MR. BELODY: Are you talking implemenation or just the guys working on the site now?

MR. FREDERICKS: Well, I'm talking about what's going to happen during the implementation process. We've been working on the site for ten years, and nothing's happened. And as far as we know, nobody's sick or suffered any ill effects that we know of. But now we're going to have a process where we're going to be dredging up, channelizing, p[illegible] up a structure right on the property, I assume

with a similar line of questioning, you're going to be depositing contaminated waste on the property and disposing of it there, is that correct, treated?

MS. LAVIS: Right.

[redacted]: Am I correct in that understanding?

MR. BELODY: In the areas that are already contaminated. We're not going to place any waste on the site in an area that has previously not been contaminated.

[redacted]: So it's going to be put back into the contaminated area?

MS. LAVIS: To be treated.

[redacted]: To be treated.

MS. LAVIS: Right.

MS. PASTOR: This young lady here in the back here?

[redacted]: [redacted]. What is the status of the responsible party for doing that? Have they agreed who is responsible for what and how much is going to be paid by whom yet?

MS. PASTOR: She wants to know how the payment is going to be divided up among the PRPs, if that's been decided yet.

MS. LAVIS: That's something that the PRPs will decide among themselves. One of them could decide to pay for all of it; they could split it up equally. That's totally up to them.

[redacted]: But it hasn't been done yet?

MS. LAVIS: They could have done it already and not informed us. But not as far as I know.

[redacted] My question is will any disagreement between who is responsible and who should pay what, will that delay the cleanup project at all?

MS. LAVIS: No. No. We have a period -- a set period of time in which we would be negotiating with them. If they do come to some kind of conclusion during that time, then we would go ahead either with the court-ordered part of it or we would do it ourselves.

[redacted]: I'm just curious, do you expect any residual by-product of the bioremediation process?

MS. LAVIS: Residual? There will be treatment residuals.

[redacted]: What are they?

MS. LAVIS: It will just be very -- insignificant levels. We're cleaning up to a certain standard. When we reach that standard, then we will have a residue there, which is what we're going to cover in place. Is that what you mean?

MR. EDELSTEIN: It will consist mainly -- It will look like mud. It'll be mainly fine materials, smaller materials. Some of the silt or clay-sized particles for the most part that will -- generally the treatment level

we're going to try to get down to -- we're going to get down to is we're talking about 6.1 parts million per PAHs, carcinognic PAHs, plus the general PAHs, and that's what that material will have it in left. And it will look like mud.

[redacted]: Okay. And, you know, I was thinking of will there be some kind of chemical by-product from the process itself?

MS. LAVIS: No. There will be nothing different in coming out than we will --

MR. EDELSTEIN: Ultimately the bacteria will be converted to carbon dioxide and water. We won't chlorinated organics here, so we don't have to worry about those types of by-products.

[redacted]: Now, the remainder of stuff, will the natural processes work on that afterward too; you know, the natural bacteria in the soil, will that also work on it later on, or do you foresee any problems cleaning up later on after you've, quote-unquote, cleaned up the site?

MS. LAVIS: Well, the residual levels that are remaining will be very, very low. They're going to be below any risk level that's of concern. And the processes will continue very slowly. It takes a very long time. I think it's something like a hundred years or so for certain kinds of degradation to take place in those circumstances.

So it does take place, and it's taking place out there now at this very slow level. But the levels we there are no risks associated with it.

[redacted]: Then after the rechannelization I assume that's going to landscaped or taken care of that way or going to be doing something other than just putting in a channel and letting nature take its course?

MS. LAVIS: No. That's a very important part of it. And a lot of people are involved in thinking about that and planning it out because we want it to look better than it looks now so they will be reseeding and replanting and in general new species reinstated.

MS. PASTOR: It is hard to hear you in general.

MS. LAVIS: Oh, I see. The rechanneling of the river is going to be reseeded and replanted and restored to probably better than it's looking now.

[redacted]: One more question. It sounds like you've come to your conclusion as to what you're going to be doing, you've arrived at your alternative already.

MS. LAVIS: Well, that was part of the process, that we look at all the alternatives. And we compared them against these nine criteria, so we have an idea but about what we think would be effective out there But that doesn't mean we won't change our minds?

[redacted]: When are you [illegible]ng to begin this

project? When is the starting date? Is it even determined?

MS. LAVIS: The starting date for the --

[redacted]: Of the beginning of the project, whatever you arrive at.

MS. LAVIS: Oh, I see. Next year sometime we'll be starting the design. In 1991.

[redacted]: Are we going to be notified again as to what the results of your findings are?

MS. LAVIS: Oh, definitely. Definitely. There will be a record of decision and all of these comments and replies to the comments will be included in it.

MS. PASTOR: And it will all be in that repository, in that document file, in the library. But we will continue to mail you things, so if you signed up in the back of the room, that means your name will be added to the mailing list or kept on the mailing list if you're already on it. But we will continue to send out information as we go along.

And through the process if you feel you haven't even been informed or missed something along the way, you can call us any time you want. People generally aren't bashful about calling us at EPA, and you shouldn't be either. Any time between eight and four-thirty. We have an 800 number, so you don't even have to pay for a long distance telephone

call. And it is on the fact sheet there. Betty's direct number is on there, and so is mine, but we can also both be reached through the 800 number. So you can always call us if you feel you're in the dark about something in between meetings.

Are there any other questions? Because if there aren't, we can move into our comment portion.

MR. EDELSTEIN: This gentleman here.

MS. PASTOR: You're ready for the comments? Okay. I'll just give out --

MR. EDELSTEIN: Did you have a question here?

MS. PASTOR: Did you have a question? Oh, you're ready for the comments too? Okay. Well, then, again, the comments are statements now. We're through answering questions, at least for the time being. We'll stay afterward and talk with you or show you some of the documents or help you out in any other way we can. But right now the comments are what we are interested in, please, so make it, please, in the form of statement.

And later on the responses to those comments will be in a response and summary, that's part of what we're calling the record of decision, that's the document that will ultimately outline what we will be doing at the site. And that we expect to be signed by the end of September, if not sooner.

So, with that then, let's move into the comment period. And we need your name and address; if you represent someone in particular the court reporter needs to know that.

[redacted]: My name is [redacted]. I'm a resident, and I'm representing my interests as a resident.

I would first like to thank the EPA for sending out the information. It's been very helpful. And on that I'm basing my statement.

I came here tonight to speak in favor of Alternative 5. I feel Alternative 5 would represent the least damage to the trees, the environment, and the plentiful wildlife that's in the area. We have deer, oils, hawks. You name it, they live in these woods along this river.

I feel that Alternative 5 will represent and inflict the least damage to the property and aesthetic values of neighborhood. As a homeowner I'm concerned about property values. There have been some problems in the area. And I feel that the rerouting of the river, with the accompanying destruction of the trees and the grass and everything else, is too much of a cost for the average area resident to bear in terms of decreased property value and aesthetic value.

I feel that the argument of difficulty mentioned under Alternative 5 is more than offset by the fact that its cost is less -- more than two million less than Alternative 3 A. I don't feel that difficulty is a valid point. The burden

is on the responsible parties. The difficulty I don't feel is something that needs to be considered by us here at this meeting.

One of the alternatives, Alternative 6, mentions on-site incinceration, which I would like to go on the record as being absolutely opposed to, due to the fact that the fumes would be generated, and these fumes would, no doubt, in my mind, be carried over into the neighborhood residences, of which there are plenty in almost all directions.

I feel that Alternative 5 would result in desirable levels similar to what you're calling the background levels, which is the desirable goal.

And I feel that -- based on what I've heard tonight, it seems to me that it's too late in this process, at which time we're ready to go into this remedy stage, to properly analyze this rerouting idea. Apparently there has not been enough analysis done of this rerouting, from what I can tell from the discussion tonight.

I feel that Alternative 3 A could possibly cause flooding problems. Again, not much discussion in that area. But there was testimony or discussion indicating that straightening the river was done in the first place to reduce flooding. As a resident I feel that that is still a desirable goal. And since the river has been using this

route for nearly a hundred years, I don't see much point in rerouting it.

Thank you very much.

MS. PASTOR: Okay. Thank you. Who would like to make the next comment?

[redacted]: I would like to congratulate you, you've done an excellent presentation of this program and explaining what you intend to do.

The only thing is I don't know where those incinerators would be. Where would they be located, on-site or what?

MS. PASTOR: As I said, this is comment, so we aren't answering questions at this point.

[redacted]: Okay. But --

MS. PASTOR: We can answer it later for you, but if you want to rephrase it in the form of a comment or think it through, we can come back to you.

[redacted]: I don't know how to rephrase it. It is a question, I know.

MS. PASTOR: Why don't we come back to you after we take comments.

[redacted]: Okay. I'll wait.

MS. PASTOR: A comment. Sir?

[redacted]: My name is [redacted].

ght I'm representing the Technical Advisory Committee

of the Milwaukee Estuaries Remedial Action Plan. For those of you that don't know, the Remedial Action Plan is a cleanup plan for the Milwaukee harbor and the three major rivers that empty into it. It's one of forty-three similar plans being developed all around the Great Lakes for the so-called toxic hot spots, and we have a technical committee and a citizens committee that have been working on this. And we're --

The first stage of that plan has been problem identification. We've been gathering a lot of information and studying it very carefully to specifically identify all the water and water-resource related problems in this area.

What I'd like to do is focus on a few key issues that we see related to this plan, and I guess our comments are more related to the planning process rather than the chosen alternative.

First is that the remedial action plan is based on what we call an eco-system approach, which means that when you study a problem in one compartment of the environment, you have to look at all the other related compartments and how they affect that compartment.

When you study the water, you have to look at the sediments, you have to look at the fish and wildlife, [illegible]mes you even have to look at the air pollution that [illegible]s the water as well. You've got to look at all the

creatures that use the area, not just man.

We feel that this particular plan does not necessarily use an eco-system approach. There's a very strong section on human health. It seems like the stuff on the environment is only an afterthought, and we would like to see a stronger environmental component to the plan.

The second point would relate to cleanup end points, the idea of how clean is clean, how far do we go? It seems like we -- And I guess I'd have to say that the discussion here was rather confusing. We have several fairly technical people on our committee, and we all felt that this was rather confusing. We seem to have ended up with a ten to the minus four risk level after a long discussion of risk analysis, and it seems like in the end it's a technologically-based level as opposed to any of the human health concerns that we talked about earlier. If that's not the case, I'd like to know. But that was our interpretation of it.

The third issue relates to boundaries. We've ended this study at the end of the Little Menomonee River about five miles downstream. In scanning the documents we didn't see a real good justification for this. We're told that one of the appendices the information is there. If it is, I guess I'd like to see it brought forward and some clear, concise statements made about that. We have several people

on our committee who aren't so sure of that conclusion. In fact, we are trying to sponsor a very detailed study of contaminated sediments in the whole Milwaukee area to address this issue as well several others.

Lastly is the issue of ARARs. I seem to have a mental block with that term. I think it stands for something like appropriate reasonable applicable regulatory standards? Something like that. And they seem to be basically State standards for groundwater, for surface water, for landfills, or whatever.

And I guess the problem we have is that the Remedial Action Plan is part of the area-wide river quality management plan. These are plans that are mandated under the Clean Water Act, that EPA requires each State to develop area-wide water quality management plans, and the Clean Water Act indicates that all water quality management activities will be in conformance with those plans; however, the Superfund enabling rules and legislations seem to say that only State-promulgated standards are the ARARs, and they will not consider recommendations in an area-wide plan. We'd like to see that changed, if possible.

I realize that staff here can't make some of these changes, but I guess at a minimum we'd like to see two things:

First of all, we'd like to see you talking more to your

co-workers in the Great Lakes National Program office, as well as the Water Division to understand each other's program better and make sure that you coordinate to the best extent possible.

Secondly, we'd like to work with you as well at the local level. Your planning and design process is ongoing and so is ours. Let's talk.

Thank you.

MS. PASTOR: Okay. Who else would like to make a comment?

MR. ANDERSON: My name is Tom Anderson, and I'm an environmental specialist with the Wisconsin Division of Health within the Department of Health and Social Services. One thing that I'd just like to state at the comment period at this time is that the Division of Health is in the final process of concluding a health assessment done with respect to the Moss-American site.

We have a cooperative agreement with the U. S. Agency for Toxic Substance and Disease Registry in Atlanta, Georgia, to conduct such health assessments. We have submitted a draft version of that health assessment to APSDR, we have also submitted a copy of the health assessment to Wisconsin Department of Natural Resources to make sure that some of facts and figures used in the health assessment are correct. We will also be sending a copy to

USEPA for their review to insure THE technical accuracy of this document.

When it's finalized, a copy of the document will be placed in the public repository at the library on Mill Road. We expect that to be done this summer.

MS. PASTOR: Okay. Who else has a comment for us?

[redacted]: I just want to make a comment that with incinceration, if it's a properly designed unit, properly operated, that the fumes coming out of that stack are -- there are no fumes at all. You cannot smell whether it's coming out of the stack.

MS. PASTOR: Someone else would like to make a comment?

[redacted]: [redacted]

For the comment period I'd like to say that your documents that you published is quite confusing. Your explanation as to the volume of material to be moved and the various alternatives do not guide, and in your comments and responses to the questions you contradicted yourself. And yet you made estimates on dollars based on what appears to be confusing numbers. Confusing base numbers.

The bioremediation technique that you cite are good under given different kinds of contamination. In the State of Wisconsin, as in all northern states, they have problems with temperature, they have problems with increasing the

length of time.

Now, if I was to go on record -- Well, I would state that I would prefer incinceration because of the completeness of the destruction. I disagree vehemently with the length of time that was cited here. And it doesn't go by emotion; it goes by demonstrated success at a Superfund site that I mentioned earlier.

In regard to the question of the fumes, there is an exhaust from an incinceration system. EPA's rules demand that it be very clean, and these systems do produce very, very clean fumes. They are less contaminant than your own own chimney from your fireplace. Incinceration does carry a bad reputation. That we all understand. I don't want this committee or staff to discount it on based upon hearsay and based on lack of evidence.

I do suggest and very strongly recommend that you do look at those sites that have had the same contamination or very similar contamination in that the characterization of creosote would be the same contaminant, and review and analyze the successes that have been enjoyed at those sites. And I believe that you will conclude that incinceration technique may be much closer in cost and in success to what your goals are than even the bioremediation technique that you are now contemplating.

Thank you.

MS. PASTOR: Thank you. Another comment? Yes?

MR. RICE: My name is George Rice. I'm a special counsel for Milwaukee County and retired County corporation counsel. I am special counsel for the County of Milwaukee, and a retired County corporation counsel. I'm appearing on behalf of Milwaukee County in a very limited manner.

As you know, we have worked with the United States government since 1971 with regard to this particular site. And we will surely hope that we will continue to work with them in an effort to find the best possible environmental solution and that we will then submit written comments by the adjourn date of August 4th.

MS. PASTOR: Thank you.

MR. RICE: Thank you.

MS. PASTOR: For those of you who didn't hear that in the back, he basically said that he's representing Milwaukee County, and the County will continue to work with EPA, but written comments will follow. Is that about it?

MR. RICE: That's right.

MS. PASTOR: And, by the way, all the comments tonight and all those things that are said here will be in a public transcript that will be in the repository as soon as we get it and can send it off. Are there any other comments?

MR. EDELSTEIN: Yeah. I'm Gary Edelstein, the State of Wisconsin.

The only comment I have at this point is that because of the number of complicated aspects of this remedial action and the potential impacts of the construction associated with it and the details that have to be worked out within the design, I'm strongly suggesting that EPA hold another public meeting when the design documents are available before the remedy is implemented so that public participation can be had on the details of the design, whatever remedy is selected. And that isn't always EPA's policy to hold those kinds of public meetings, so I'm suggesting that one be held.

MS. PASTOR: Okay. Other comments?

[redacted]: [redacted] again. I didn't realize that that procedure happens that way. And I concur and also strongly suggest that EPA hold another public comment meeting, but please do it before you get too far into the engineering phase, so that you don't come to us and say we've already spent $5 million and therefore it's cost loss if we proceed that way.

I would say that you consider having it some months after you get closer to your decision but prior to spending a great deal of money. [redacted]: [redacted]

I would also heartily agree with the notion that we have another public meeting. And I say that because now I

learn that there's a health assessment, which I understand is going to be completed and on file this summer, and the written comments, I believe, are due August 4th, and it would be extremely helpful to have that health assessment before those written comments. And I think it may be helpful, in addition, to extend the written comment period until that health assessment is available.

Thank you.

MS. PASTOR: Okay. Someone else?

Okay the comment period is closed. But I will say one thing: We can have public meetings whenever you like. We don't really have a policy one way or another that binds us to a certain schedule. We have milestones, if you will, where we think it's appropriate to have a meeting. But we can have them whenever you like. So it's no problem to have one during the design of a project, during the actual action of it. We can have it whenever you like. So that's certainly not a problem, and we will do that.

All right. Then I guess we have one person that's here.

[redacted]: I just want to mention that there will be a news release on the health assessment, so you'll know when it's in the repository.

MS. PASTOR: There are plenty of health people here that can answer your questions before you leave tonigh

and there are State people, and there are contractors and EPA people, so we'll stay around for a little bit. If you have any questions and you'd like to talk with us, if you owe us an address or phone number or something, we'll take that from you.

And if you didn't sign in, please do in the back of the room, and that will insure that you will get future updates.

And sorry about the wrong time in the fact sheet. And the next meeting we'll get that right.

Thanks for attending. And we'll be around for a while.

(Proceedings concluded at 8:58, p.m.)

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CERTIFICATE OF REPORTER

I, ELLEN E. WALFOORT, Certified Professional Reporter and Notary Public in and for the State of Wisconsin, do hereby certify that I transcribed the foregoing proceedings and that this transcript represents a true and correct transcription of the proceedings done by me or under my direction and supervision to the best of my knowledge and ability.

Dated this 23rd of July, 1990, at Milwaukee, Wisconsin.

My commission expires February 13, 1994.

Ellen E. Walfoort

Ellen E. Walfoort