TRANSCRIPT OF PROCEEDINGS

from the EPA, Wausau Well Field Superfund Site public meeting held at the Wausau City Hall, City Council Chambers, Wausau, Wisconsin, on the 22nd day of August, 1989, commencing at 7:00 p.m. and terminating at 8:15 p.m.

A P P E A R A N C E S

SUSAN PASTOR, Moderator
Community Relations Coordinator
U.S. EPA

MARGARET GUERRIERO
Remedial Project Manager
U.S. EPA

KIM BRO
Wisconsin Division of Health

TERRY EVANSON
Wisconsin DNR

MICHELLE OWENS
Wisconsin DNR

PHILIPE GOMEZ
Attorney for EPA Superfund Site
U.S. EPA

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PROCEEDINGS

EVENING SESSION

SUSAN PASTOR: I'd like to welcome you this evening to our public meeting. My name is Sue Pastor. I am the Community Relations Coordinator for the Wausau Superfund project.

Up here tonight with me I have Margaret Guerriero. She is the remedial project manager for the site, and she'll be explaining some things to you in a little bit.

And over here is Terry Evanson from the DNR.

And across from her is Michelle Owens from the DNR.

And behind Michelle is Kim Bro from the Wisconsin Department of Health.

And behind him is Philipe Gomez and he's the attorney for EPA for this Superfund site.

I hope you all picked up an agenda. If you didn't, we have plenty up at the front table. We do want to stick to this agenda tonight, and as you can see, after I give my brief opening remarks we will have Terry talk about the State's role.

And then Kim will talk about a health assessment that was done on the Wausau site.

And then Margaret will come up and elaborate

on the findings of the remedial investigation and she'll present the cleanup alternatives that are available to us to clean up the Wausau Superfund site.

After that we will have questions and answers and at that time we'll be glad to take your questions. So if you could hold them until that time, we will answer everybody's questions, we're in no hurry here.

After that we'll have our comment period. Comments will be on the feasibility study and the proposed plan that Margaret will be telling you about in a little bit.

I just want to remind you that we have a court reporter here tonight taking everything down for our public record. His transcript is part of our public record and in that public record will be your comments. And we have to respond to those comments and we put that in a document called a Responsiveness Summary, which is also included in our major document called the Record of Decision which outlines the cleanup alternatives that will ultimately be used here at the site.

So when we get to the comment period, it will be very important for you to speak clearly so that the court reporter can hear everything you say, that you identify yourself, that you tell him who you are, who you represent, if anyone, and maybe spell, spell your name if

it needs to be spelled and then give us your comments.

Then we'll be around after that to talk with you one on one if you need to speak with us or you'd like us to elaborate on any points that maybe you missed during the meeting, we'll be glad to stay around for a little bit.

I guess there will be a council meeting after our meeting, so maybe we can't stay around a long time, but maybe we'll be available for a few minutes afterward.

We have some other handouts up at the front table. This is our facts sheet on this feasibility study. If you got one in the mail, then you are on our mailing list. So we do ask that you sign in anyway just so we can keep track of who comes to our meetings and that we can keep our mailing lists up to date. We do cross-check it and try to keep track of everybody who's moving and changing addresses and so forth. So inside, we'll talk about the alternatives and maybe you'll be able to follow along a little bit with Margaret as she talks.

There are also some handouts from the Department of Health including a little summary of the health assessment that was done here by the Department of Health, so you may want to pick that up, as well as some of their other handouts.

So I think I have said enough. So let's

have Terry Evanson come up and talk about the State's involvement in this.

TERRY EVANSON: Good evening. My, I am a hydrogeologist with the Department of Natural Resources and I just want to take a few moments tonight to tell you about the State's role in this Superfund process and particularly in the Wausau water supply situation.

The Department of Natural Resources has been involved in the -- what -- well water contamination case here in Wausau really since the very beginning, since the early 1980's, and has at every step of the way assisted, either assisted the City in trying to solve the water contamination case and now and then as EPA became involved with the Superfund really acted as a team member with EPA in the remedial investigation and the feasibility study. We receive all of the reports that are produced, have the opportunity to comment on those reports and are -- have an integral part in the decision making that EPA, the decision making process that EPA goes through in the analysis and the final decision that will be, that will come about here on this Wausau water supply site.

And so we will continue to be involved in this public participation time and, as -- as Sue mentioned, the Record of Decision that will be coming out which makes essentially the final decision, the determination of what

remedial action will happen here and we will be commenting on at lease part of that. And that is our role and we are constantly involved with that and certainly want to be able to answer your questions and be available to you for any questions or observations that you want to make. And so I will go ahead and turn the time over then to the next speaker.

SUSAN PASTOR: Okay. And that next speaker will be Kim Bro from the Department of Health.

KIM BRO: Thank you, Sue.

I am an environmental engineer with the Wisconsin Division of Health. And we in June came out with a, what is called a Preliminary Health Assessment of the Superfund site here and I'd like to explain just a little bit how we fit into the process along with the other agencies that are here.

At the federal level there really are two agencies, two federal agencies that have major responsibilities related to the Superfund law:

One is the U.S. EPA and the other is an agency called the Agency for Toxic Substances and Disease Registry and that ATSDR is the agency through which the State Division of Health is working on the health assessment. So at the State level we have the DNR working in concert with the EPA and the Division of Health working

in concert with ATSDR and the responsibilities are split up such that the Division of Health addresses health, human health issues associated with this site.

We are not responsible for determining liability or determining timetables for action but rather looking specifically at what is required for protecting the public health.

The process we went through in performing our preliminary health assessment which, as Sue mentioned, is on a piece of paper that looks like this and is available at the front, is basically going through the information that has been collected on the site and evaluating the physical and geographical and historical conditions and looking at what the implications are for human health, looking at which contaminants are of health concern and identifying the pathways that -- through which people may be exposed to the contaminants that are here.

And finally looking at what this means for public health and coming out with a set of recommendations.

Our recommendations are provided to all the people who are involved in dealing with the site, it's not a specific recommendation just to EPA or to DNR or to the City or to the people responsible for the contamination, it's -- it's looking at the overall situation and coming out with recommendations in that regard.

The basic pathways that are of concern here are primarily the groundwater, as everybody is aware, and in looking at how we clean up this problem, the air.

And essentially what is happening here is by cleaning up the groundwater, the contaminants are being removed from the water and released to the air so the people in the city who drink the water are receiving considerably less contamination, the water in the municipal water supply fully meets the federal standards.

And people who are near the areas where these contaminants are released into the air are subject to a little bit higher exposure to chemicals than they would be without the strippers nearby.

And essentially our recommendations, our conclusions for this and recommendations are that the municipal water supply with the strippers in place and the proposed actions that Margaret will be describing in a moment meets the requirements for a safe and healthy water supply essentially.

But in regard to the areas where contaminants are emitted from the strippers, essentially we are recommending that we avoid situations where people will come into contact with the higher concentrations of these.

And let me make clear that the, any individual source involved here is meeting the air

standards, it's -- in particular in the east part of the well field where there is several strippers in place where there is a potential problem with higher levels of contamination.

And the control alternatives that are being proposed, the recommended alternative will address this by essentially controlling, the second recommendation here, controlling the emissions of VOC's in the area near residential development. And Margaret will explain how that's going to be done and the recommended alternative.

And then finally the -- we recommend that there be some follow-up monitoring of the air in these areas because the EPA has done some essentially computer analyses of what the levels of contamination are in the areas where these are being emitted and has determined that the control proposed will be adequate. And we suggest that it be followed up with some monitoring to be sure that that is the case.

With that I want to mention that we do have some fact sheets, they are blue and yellow sheets that describe the two contaminants that are of primary health concern at the site, tetrachloroethylene and trichloroethylene.

Thank you. Now Margaret can give the specifics.

MARGARET GUERRIERO: Put that back on. Good evening, everyone. Thank you for coming tonight.

My name is Margaret Guerriero. I'm the project manager with U.S. EPA for this Wausau Superfund site.

Tonight I want to talk to you about the process that we went through in analyzing the contamination at this site and then evaluating what should be done here. What I am going to do is go through what the findings of the remedial investigation were, which is what our study -- which is what we call our study into contamination at Superfund sites.

And then I am going to discuss our risk assessment that we do based on the results of the remedial investigation findings to determine what the problems to human health and the environment are.

And then I am going to talk about the alternatives that we developed and evaluated to address those concerns that we found in the risk assessment.

For those of you who aren't familiar with the site, this is a map of the study area. This is what will be referred to as the west study area, it's the municipal wells six, seven and nine, and the east study area includes municipal wells two, three and four. Okay.

I want to quickly go through some of the

site history for those of you that aren't familiar with it, and I just pointed out the site location.

History of contamination. Contaminants were found in Wausau's groundwater -- or drinking water, excuse me, in 1982.

Since that time a number of things have been done at the site. The City and the Wisconsin Department of Natural Resources tried to alter pumping schemes and come up with some other ideas on how to rid the water or eliminate the exposure of contaminants.

They applied for a grant to EPA. They also asked EPA to come in for emergency assistance at one of the wells while they were developing a design for an air stripper.

The City installed two air strippers at the drinking water -- at the water filtration plant to clean drinking water before the residents receive it.

City well six was pumped to waste into one, into a creek nearby, Bos Creek, in order to stop contaminants from moving towards well -- in order to stop contaminants from moving towards the clean wells north of well six.

And Wausau Chemical on the east side installed an air stripper and an extraction system to remove contaminants from the source area, or one of the

source areas there.

Currently the City recently put well six back on-line.

I am going to put my map back up there. City well six, which was pumped to waste until last summer, was put back on-line. The City constructed a pipe under the river, it now goes directly to one of the air strippers.

They've installed an additional well, city well ten, that they now also use. And EPA has been conducting and has now completed their study.

So that basically brings us up to the current situation at the site. Okay.

The RI findings for the site. On the west side we -- the RI showed that there was two source areas on the west side and also two contaminant plumes on the west side. Marathon Electric -- and the Marathon Electric facility on the west side of the river is located right in about this area here -- and on their property there is an old city landfill that's located about here.

It was determined that this was a source of contamination to city well six here, there was a plume moving from this source to the well field.

It was also found that city well six discharged to Bos Creek created a low level contaminant

plume coming from Bos Creek and discharging or infiltrating back into the groundwater. That was found to be moving also to well six but it was at very low levels.

And once city well six, the pump, the discharge to Bos Creek was stopped, that plume has reduced the concentration and is considered not to be a problem because of the low levels and because of the fact that city well six is being pumped or being stripped, pumped to the air strippers, excuse me. Okay.

Also in this landfill it was discovered that a TC plume was moving under the river to the east well field to city well three. Okay.

Now, on the east side of the river there were also two source areas identified and at least two contaminant plumes identified.

One of the source areas, Wausau Chemical, which is located in-between these two wells here, had at least two spills that are known, one on the south side of the building and one on the north side of the building. It was determined that these two plumes were contributing to the contamination in the east well field.

And also there was Wausau Energy, which is located right here, that was a bulk oil distributor at one point, was also contributing petroleum byproducts to the groundwater.

As I mentioned, there was also a TC plume moving from the landfill to well three. Okay.

During our study, while our study was ongoing, the City notified us that they were going to, they were interested in putting well six back on-line. We looked at what this effect would do, this would -- or how this would affect our study and the problem.

And we determined that an interim remedy to try and protect the west well field, now that well six was going to be a supply well, was -- we determined that this, an interim remedy was -- would be helpful to add further protection to the well field.

We went through the same process that we are going through now where we developed a feasibility study and we presented a preferred alternative at a public meeting here last October and we signed a Record of Decision, which is the record that explains why and how we are going to do or implement a remedy for a -- we -- the remedy was for an extraction and treatment system of groundwater on the west side to address the TC plume that was moving from the landfill to city well six. Okay.

That, this project is now in the design phase and hopefully that will be in in the near future.

Okay. As I mentioned, based on the results of the remedial investigation, a risk assessment is

performed to determine which contaminants found at the site are of concern and which pathways that these or media, groundwater, air, surface water, that these contaminants are affecting, which ones of those are a problem of exposure to residents, the public and the environment.

We then use that information, the results of that information to develop our alternatives and evaluate whether or not those alternatives will address appropriately or properly those concerns.

For -- the contaminants of concern at this site are tetrachloroethylene, trichloroethylene and dichloroethylene. These are all solvents, degreaser type chemicals that are widely used in industry for dry cleaning, degreasing and a number of other things, they are basically solvents, general purpose solvents, and these were determined to be contaminants of concern at the site.

We looked at the routes or potential routes of exposure. And it was determined that groundwater is a potential route of exposure because if at some time in the future a private well was installed in the area, in the study area, that would be a direct route to the public for contamination.

Drinking water is a potential route of exposure because if for some reason in the future the air strippers did not work, were not effective against a

certain level of contamination that would be added, or if for some reason they were not, they were no longer used, that would, that would be considered a potential route.

It's basically -- I don't -- we are not saying here that they are a route of exposure. What we look at is in the future if conditions remain the same, what type, what would be a potential route of exposure.

Also the third route, potential route of exposure was air emissions from air strippers. We did some computer simulated modeling for air emissions from the existing air strippers to determine whether or not they were posing a risk at this time, and also to determine whether or not future actions that we take will have to control the emissions of volatile organics.

What we found was that the combination of the two City strippers and the Wausau Chemical air stripper creates a plume of contaminants that is well below the State standards for VOC emissions but it's very close to and exceeds to a small degree what we would consider a comfortable risk level for VOC emissions.

In other words, the report showed that two people in a million could contract cancer from the emissions from the air strippers. EPA in general likes to, likes to -- or our guidelines, I should say, are one person in a million to contract cancer, that's basically how we

evaluate and balance risks. The -- what -- what this showed us was that any future actions that we are going to do here will need controls on the emissions.

Also as part of our evaluation of the ongoing and current situation, we determined that Wausau Chemical's air stripper and extraction system is not effective to address the complete problem on the east side so that would no longer be operating. So we feel that with that air stripper turned off and with all additional emissions controlled, that we would be at EPA's guidelines of one person in a million at risk for cancer.

Okay. I think I have pretty much pointed out that our objectives for the final remedy are to eliminate or reduce risk to potential exposure routes.

In other words, to address the groundwater and the air emissions is what our goal is here for the final remedy.

The areas to be addressed are the east side groundwater contamination and the east and west side source areas. The -- as I mentioned, the interim remedy addressed the west side contaminaiton.

Okay. These are the alternatives that we evaluated:

The first one, no action, is -- would include the interim remedy but it would be no further

action to source areas or the east side groundwater. The costs would be nothing additional. And we have estimated that if we leave the situation the way it is, it would take approximately 20 years to clean up groundwater on the west side that's affecting the city well six and it would take approximately 15 years to clean up groundwater on the east sides that's affecting city well three.

The second alternative that we looked at was groundwater extraction and treatment. It would be similar to what we have as our interim remedy on the east -- on the west side, but it would address the east side contamination. It would also include control of the emissions from any treatment that we would use.

This alternative was determined also to -- was also going to take about 20 years to clean up contamination on the west side because we are not addressing the west side with this alternative. And also it would take about 12 years to clean up the east side. And the reason that is, it seems like it's a pretty long time, if you are going to implement some type of system to extract groundwater, you would think it would be a little quicker. But what we found in using a computer simulation is that there is actually a tug of war going on between the city supply well that's pumping, city well three, and the extraction system that would be installed in the vicinity

of Wausau Chemical on the east side of the river. So it essentially takes longer because there is that tug of war ongoing.

Alternative three is a process called in-situ bioreclamation. And it includes partial treatment of groundwater above ground.

In-situ bioreclamation is a process whereby bacteria is introduced into the water and it actually breaks down contaminants that you introduce, they refer to them as bugs, introduce bugs and nutrients that they use to multiply and they use the contamination as well as actually a nutrient and they break it down in the process.

This alternative was estimated to cost 1.7 million. And the cleanup time, again there was not a large reduction in cleanup time for the west side because this alternative is basically addressing the groundwater on the east side.

The cleanup time on the east side was hard to estimate because we really couldn't model or computer simulate how long it would take for these bacteria to break down the contamination. I should also mention that this alternative or this process is a, is a somewhat innovative process, this has not been used very often at -- to clean up groundwater with these types of contaminants in them, so there was a lot more uncertainty with this alternative.

Also it would require approximately ten years to clean up the east side contamination.

The fourth alternative is strictly bioreclamation in-situ, meaning right in the ground. Instead of pumping the water out and partially treating it and putting water back into the ground under alternative three. Alternative four would simply be putting nutrients into the ground and enhancing the breakdown of contaminants from the bacteria in the groundwater.

Again this was, the cost of this was 1.4 million, it's less costly because there is not treatment required above ground, and it's the same, it's a similar time frame for cleanup, it's still approximately ten years to clean up the east side groundwater contamination.

Alternative five is a -- addresses the source rather than groundwater. The other alternatives looked at groundwater cleanup. Alternative five which is -- move it up a little bit so you can see it back there -- it's a source control alternative.

The process that we are recommending under this alternative is soil vapor extraction, it's a process that extracts, with a vacuum type process extracts contaminants from soils before they reach groundwater and cleans the emissions using a carbon system.

The cost of this alternative is $750,000.00

And this is actually controlling the source so that no more contaminants will percolate into the groundwater. And continuing to pump city wells that are contaminated actually reduces the time for cleanup more than pumping or treating groundwater, pumping groundwater out or treating groundwater in-situ.

The remediation. The estimated time for the west side is 14 years until no more contamination would reach city well six, and six years on the west -- on the east side until no more contamination would reach city well three.

Okay. In our preferred alternative, the one that we are recommending is alternative number five which is the source control using soil vapor extraction. This, this alternative includes the remediation of three source areas that we found in the remedial investigation. See if I can find my map real quick.

Okay. That would include the landfill, the Wausau Chemical property and the Wausau Energy property, are the three sources where the soil vapor extraction systems would be installed in the contaminated soils found on-site.

This alternative also includes the treatment of off gases from this process to prevent any additional VOC or volatile organic emissions into the

atmosphere.

It includes the controlled pumping rates of the affected supply wells. In other words, these wells would have to continue to pump in order to remove contaminants from the groundwater.

If they were turned off, the contaminants would remain in the groundwater. And it would include continued treatment of drinking water by the City's air strippers until the time where it was determined that the drinking water would meet drinking water standards without treatment or until the time that the contaminants are purged from the aquifer. The time period is very close, because the levels that are acceptable are fairly low.

Okay. And that's it.

SUSAN PASTOR: Okay. We will take your questions at this time. So if you want to raise your hand, we will take some questions before we move into the comment period.

WAYNE KLEINSCHMIDT: Wayne Kleinschmidt, 1321 East Bridge Street. Why has there been a 50 percent increase in the costs for alternative five since I got your bulletin?

MARGARET GUERRIERO: Okay. At the time that we put out the fact sheet, we did not include the operation and maintenance of the City's air strippers and pumping of

those wells.

We have since included those in the cost because we determined that it would have to be part of the remedy, that those wells would have to continue to pump.

BRUCE CUTRIGHT: Bruce Cutright representing the City of Wausau.

Margaret, the air quality monitors, is that included in the RI?

MARGARET GUERRIERO: No, it's not. It is in the administrative record for the site which is in the repository if you need a copy of it, it's something we did in-house, EPA did it. And we do intend to do another modeling effort with Wausau Chemical's air strippers turned off.

BRUCE CUTRIGHT: That would be useful information to have access to.

MARGARET GUERRIERO: Okay.

BRUCE CUTRIGHT: I have another question for Kim Bro, if you don't mind.

Kim, can you comment on the treatment of trichloroethylene and titrachloroethylene in sunlight? As we understand it they break down rather rapidly.

KIM BRO: The question was about what happens to trichloroethylene and tetrachloroethylene once they get into the atmosphere.

And it's correct, photolysis it's called, it's sunlight breakdown of these products, is one way that those things break down. So the area of concern there is immediately downwind or immediately next to the VOC strippers, these contaminants not only break down but they also dissipate relatively quickly. And so the basic issue with these things is to try to wherever possible to reduce overall exposure to them. But they, the long-term effect of dispersing them and having them break down in the atmosphere is a sound one.

BRUCE CUTRIGHT: Are you able to identify the distance to the closest receptor --

KIM BRO: -- according to the remedial investigation, the area of maximum contamination it seems to me was about seven hundred fifty to two thousand feet away from the source. So it is, it is within a distance where there are residences.

BRUCE CUTRIGHT: Is that at ground level?

KIM BRO: The ground level receptors, that was in the -- in the remedial investigation

BRUCE CUTRIGHT: Thank you.

JOSEPH PRIBANICH: Joe Pribanich, 423 North Seventh. Before you leave, Kim, one question.

KIM BRO: Sure.

JOSEPH PRIBANICH: You said long term, what

are we talking about, 20 years, 30 years, as far as exposure to this type of chemicals, the vapors I mean?

KIM BRO: Right. The question was how long, essentially how long does one have to be exposed to these chemicals or how long --

JOSEPH PRIBANICH: -- how long does one have to be exposed to those concentrations of vapors to arrive at a two cancer deaths in a million people?

KIM BRO: Okay. Essentially, okay, the question is how long would somebody have to be exposed to these things to get the risk level that was reported in the remedial investigation.

And these estimations are based on a series of assumptions, one of which is that people will be exposed to these for a lifetime. Lifetime is typically something like 70 years.

What has to be kept in mind in looking at these things is that dealing with chemical contaminants such as these, there is a lot of uncertainty, and essentially what is done coming up with these numbers is an extrapolation from effects on laboratory animals.

We know, for example, that these things cause cancer in laboratory animals. We don't know exactly what their effects are in people. We don't have the studies to justify that.

So in light of that, the basic position we take is where it's possible to reduce exposure, move in that direction, where it's possible and practical to reduce exposure move in that direction and use the numbers as more of a relative index of effects.

JOE GEHIN: Joe Gehin with the City.

If that's the case, how would you compare that to a dry cleaning operation? Typically in the City of Wausau those end up being right in the heart of a residential area, so that people have some perspective, what would be the exposure in that setting versus the air stripping emission setting, or getting struck by lightning?

KIM BRO: Right. There are several ways that these -- it's explained in the fact sheets on these chemicals, what some of the typical ways that people are exposed to these.

So, for example, somebody who works in a dry cleaning establishment would be exposed to much higher levels of the chemicals because they are working with them.

Somebody who regularly works with degreasing solvents, for example, would normally receive higher concentrations than what somebody living in a residence is.

And basically our position is that in terms of protecting the general public we move towards a position of safety because there are several people, there are young

people, there are elderly people, they are infirmed people, who live in residences as opposed to people who are working in a place of business for eight hours a day compared to other people who may be living in a home for 24 hours a day.

WAYNE KLEINSCHMIDT: Basically what you are saying is the EPA has succumbed to the threshold theory as opposed to, as opposed to the silver bullet theory.

The silver bullet theory, in case you are not familiar with this, is that one molecule will initiate it, and there is such a theory.

KIM BRO: Okay, so the point is is there a safe level?

WAYNE KLEINSCHMIDT: Right. And nobody has really determined that.

These two theories are up for grabs:

The silver bullet versus the threshold. From what I hear you telling me, you're following the route of the threshold theory at this point?

KIM BRO: Essentially.

WAYNE KLEINSCHMIDT: Based on type of physiology, a person's age, et cetera, et cetera?

KIM BRO: Right. So your point is that because we don't know if there is such a thing as level of these contaminants where nobody is going to get cancer --

WAYNE KLEINSCHMIDT: -- don't know --

KIM BRO: And then the question is, is there a level --

WAYNE KLEINSCHMIDT: -- right --

KIM BRO: -- where essentially you can't tell the difference, where there may be some people getting cancer but you can't tell the difference.

WAYNE KLEINSCHMIDT: You won't allow one single molecule but obviously that's impossible.

KIM BRO: Right, so it's a question of what is a reasonable level of safety.

LINDA PRIBANICH: Linda Pribanich, 423 North Seventh Avenue.

My questions are about the VOC removal from the soil. If this stripper has been in place for almost five years, I assume it was done sort of in concert with the DNR, with the federal grants.

How could it be that this has been in place for five years and to my knowledge no one has been disturbed about the air emissions from the VOC at the water treatment plant?

This is a real shock to me that this is a major health concern.

Number two, if you're going to be sucking VOC's out of the soil, where are you going to be taking

this to a safe place to dissipate it into the air?

Will that be dissipated on site?

Now we got VOC's emitted into the air on the west side, or put it in a bag and take it out to the Rocky Mountains or where? Where are they safe to be put into the air?

MARGARET GUERRIERO: Okay.

LINDA PRIBANICH: It's a serious question.

MARGARET GUERRIERO: All right.

To answer your first question, the Wisconsin standards for air for VOC emissions are, I think it's 21 pounds per day for VOC, or TC, I am not sure of the exact numbers, but air strippers are well below that.

The air strippers have never violated the Wisconsin air quality regulations.

In -- what we do in Superfund is look at risk levels for what the cancer risk in one in a million people are and we call that number our, what we feel comfortable as our guideline number that we work with when we look at what the site, what the site should be cleaned up to, what are risks at the site as it exists. It's a number that is based on exposure to contaminants over a, over a lifetime.

I think Kim discussed a little bit about how those numbers are arrived at, but it's a lot different from

meeting air quality standards that the DNR puts out, okay. So it's -- is that --

LINDA PRIBANICH: -- well, the other thing is are you removing the VOC's from the soil?

MARGARET GUERRIERO: Okay, let me answer number two.

What we are proposing with the VOC's from the soils, we are going to be absorbing those, the off gases, as they are referred to, on carbon, activated carbon units. What happens is that the contaminants go from the air onto the carbon and the carbon is incinerated and regenerated so that it can be used again but in the process the contaminants are incinerated and broke down so that they are no longer hazardous so that emissions will not be let out somewhere else.

LINDA PRIBANICH: The point being you don't want any other VOC's to kind of leak into the water underneath the soil or contaminate soil, they are worried about --

MARGARET GUERRIERO: -- the problem -- the reason we are doing the, removing the volatiles from the soil is because, is to prevent them from going into the groundwater.

LINDA PRIBANICHH: Into the water?

MARGARET GUERRIERO: Right, which is the

exposure route, the route of exposure is through groundwater, not through the soil. But if you remove them from the soil before they reach the groundwater, it's a lot quicker, it's a lot less costly.

LINDA PRIBANICH: Even though our drinking water's not contaminated and the VOC's emitted into the air are under the safety standards for VOC emissions, I don't really see what the problem is.

To me number one seems like a wonderful idea, since we're drinking safe water, there is no proven contamination or to other biota in the area, not even human, really I can't even see why we need to go through all that when there is nothing to be gained because our water is already safe technically?

MARGARET GUERRIERO: Well, that's one perspective.

But I think you need to realize that we are not, you know, in the business of writing off groundwater sources of drinking water aquifers. We do have a policy that -- and it actually will be promulgated as law, that we need to take certain steps for contaminated groundwater, that we can't just leave contaminated groundwater there if it is the sole source of drinking water and if it is a currently used drinking water. Okay. So that's one thing.

The other thing is if you consider the

amount of money that you spend in stripping your water and how long you would have to be stripping that water, you may find that the cost to remediate the problem at the source is cheaper in the long run.

LINDA PRIBANICH: Are you saying with alternative five you -- we would eventually not have to strip our water?

MARGARET GUERRIERO: Right.

LINDA PRIBANICH: How long?

MARGARET GUERRIERO: The estimate for having to treat well six until all contaminants are removed from the aquifer was 12 years. I think it's 12 years. And then on the east side it would be six years that you would have to treat well three.

SUSAN PASTOR: Okay.

JOE PRIBANICH: Joe Pribanich again, 423 North Seventh Avenue.

What's the cost difference between, on alternative number five between treating the air with the activated charcoal and not treating the air, have you figured that out, have you looked at that?

MARGARET GUERRIERO: It is figured out and I could probably get you a cost figure in a few minutes. It's -- it's --

JOE PRIBANICH: -- is it substantial,

talking about hundreds of thousands of dollars here?

MARGARET GUERRIERO: No, I think it's probably around $60,000.00.

JOE PRIBANICH: Okay.

MARGARET GUERRIERO: And I am not sure of that number. Does anybody know offhand?

JAMES LONSDORF: Talking about per year?

MARGARET GUERRIERO: Right, but the soil vapor extraction is estimated only to have to be operated for two years.

SUSAN PASTOR: Take a minute to get this. Would you want to just keep doing questions?

MARGARET GUERRIERO: Yes.

SUSAN PASTOR: We will do some more questions while they're flipping pages. Anybody else want to ask a question?

This gentleman right here.

KEN JAECKS: My name is Ken Jaecks. I am from the City of Wausau.

Do I understand right that if nothing is done, two people out of a million could contact cancer, two people in a million could contact cancer if nothing is done with the water?

MARGARET GUERRIERO: No, that was the number that was given for the air emissions.

KEN JAECKS: Oh, from the air, okay.

Now I have a question. Now this is, I am trying to make this comparable. Wouldn't it be right to say that more people in a million would contact cancer from the sun's rays than from the fumes that are put out from this water?

SUSAN PASTOR: Do you want to field that one?

MARGARET GUERRIERO: I don't think I can answer that.

KIM BRO: The question was aren't there other sources of cancer such as the sun's rays that can cause a lot more, a higher incidence of cancer than what one would get from exposure, for example, to the emissions into the air from the strippers?

And there are several different sources of cancer and it's possible that the sun's rays in general would, on the average would be causing more.

The basic issue, though, is how do you, how do you avoid creating more sources of cancer for people. If there are ways you can reduce emissions, how do you do that most effectively. There are many sources of cancer, the sunlight is one of them, but the basic issue in looking at these numbers is how can we move in such a way that we reduce exposure.

KEN JAECKS: I have one more question. Would it be possible that rural water on an individual well, say on a farm or in an area where they grow like a lot of potatoes or use a lot of fertilizers, would their water be at greater risk to pro -- cause cancer in a person than ours by getting it out of a well and having the dumpings from the chemicals and from the dumpings from the landfill and the other three sources, would there be as great a possibility that these people could contact cancer in their own drinking water as it would be in the city supply?.

KIM BRO: Okay. The question was would people who have their own private water supplies have -- in particular such as people who work, who live in farm areas where pesticides are applied, have a greater risk than that in the city and that would depend on whether they have pesticides that cause cancer in their water?

Certainly you can't say that on the average rural people have more contaminants in their water than that in the city, you cannot say that.

KEN JAECKS: Now, you are from the State Health.

KIM BRO: Right, with the State Division of Health.

KEN JAECKS: Do they not at times test rural

areas to find the, particularly around Plover and Stevens Point where they had a big problem, wouldn't that chemical at that particular time give them a bigger risk?

KIM BRO: There are -- okay. The question was, aren't there some places where, where there are higher risks?

And the answer is yes, there are wells around the State where there are higher risks.

Essentially the policy for private water supplies in the State is set according to the standard of one in a million risk using the standardized method that the EPA uses, so from that standpoint a one in a million risk is considered too much as the State policy and in looking at people's water wells and trying to maintain the quality.

SUSAN PASTOR: Yes, ma'am.

AMY SANTART: Amy Santart, I am from the Town of Rib Mountain.

I have a question regarding that as a pregnant woman is that cancer risk, can that be extrapolated at all for the unborn or is that for adults or what levels?

KIM BRO: Okay. Again let me emphasize -- the question was for a woman, for example, who is pregnant and worried about the effects of contaminants on the

unborn?

There are several different types of effects that chemicals can have and some of those are described in the facts sheets, cancer is just one. And in this case we are dealing with a lot of uncertainties because it's based on studies on laboratory animals who have been exposed for their whole lifetime, in this case it might be two or three years, and then trying to guess what does this mean for people who might be exposed for a whole lifetime.

When it comes to potential developmental effects or reproductive effects, those that have been observed in laboratory animals occur at much higher levels than what we see for the cancer effects.

So for anything we know about those effects, they occur at much higher concentrations than what we see for the cancer effects. And from what we know right now, we -- that is not a concern at this site.

The basic issue is how much do we not know and that's where we come out with the position that where it's possible to reduce exposure, that is the safe route to take.

BRUCE CUTRIGHT: I have one more question for Kim if you don't mind.

I think there is some confusion over the different risk factors that have been discussed. Let me be

sure I understand it.

In general it's the EPA's policy that a solution that arrives at a remedy that is within the one in ten thousand to one in one million is an acceptable policy, acceptable remedy, and that at the present time there is a risk less than the one in a million risk of drinking the City of Wausau water supply.

At the same time, the risk associated with air concerns, and these I am going to have to summarize to be sure I know what you are talking about because I haven't been able to see the documents, but those air risk concerns were calculated based on the air strippers on wells three and four operating full blast, the air strippers on Wausau Chemical's groundwater extraction system operating full blast, and the air strippers operating at the soil vapor extraction system; is that correct?

MARGARET GUERRIERO: No, that was not.

BRUCE CUTRIGHT: Soil extraction was not included?

MARGARET GUERRIERO: No.

BRUCE CUTRIGHT: Given the first two that I discussed, a cumulative risk associated with that was two in one million?

MARGARET GUERRIERO: Right. And actually you make a good point, that when it was modeled it was

assumed that the air strippers were on full blast and continuous loading of a certain level of contaminants, so it was a conservative estimate.

And I think the fact that it shows that it does fall within EPA's guidelines for risk, in actuality with Wausau Chemical's system in the future not operating, that one in one million risk level is approximately, and we will do further modeling to verify this, and also it's been recommended that we do sampling within the area of that plume, the simulated plume of air contamination would affect -- I lost my train of thought.

Anyway, it was a conservative modeling effort. I think the fact that the City's, the emissions from the City's air strippers are still meeting this, our guideline of risk is a positive sign for the air strippers, that they are not causing an unacceptable risk.

BRUCE CUTRIGHT: And then I have one more thing I want to clarify.

These risk calculations are based on exposure to those peak concentrations over a 70 year lifetime and because the air stripper has only been operating the last four years, that that risk has not accumulated to the two in one million level yet, so we are still below the one in one million risk level under even a conservative estimate; is that correct?

KIM BRO: The comment was the air strippers have not been operating for a person's whole lifetime and therefore the basis for these risk numbers had not been met, meaning that we can't take a fraction of a million people and then say that that many in the Wausau area will contract cancer as a result of this, we cannot say those kinds of things.

And in general it's important to keep in mind that how long people are exposed to these chemicals is an important consideration and essentially the remediation alternative that has been proposed greatly reduces the amount of time that these chemicals are available for people to be exposed to them. So there are two things. One is the length of time, as a result of remediation the length of time that people might be exposed is considerably less.

The other thing is that the number of people who might be exposed is also very, very much reduced. We are not talking about the whole city water supply anymore and everybody who uses it because that's being cleaned by the strippers.

Instead, the area is focused on a very much more, much smaller group of people who live near the strippers and that would be for a short period of time so it definitely reduces the amount of exposure.

JOE GEHIN: I think you also make the assumption that the strippers are ground level and I understand Michelle making comments the emission was around 20, actually since the towers are higher than 25 feet I think the emissions are closer to 75, actually 75 pounds per day or per hour, I am not sure which way it is, and our towers are 45 feet off the ground, I don't think that's been factored in either.

KIM BRO: In the remedial investigation they did take into account the height of the stripping towers but they also, again it was a, what one might call a conservative estimate. So if you assume that the people are always downwind and that the wind is always blowing at such a rate that you could get the highest concentrations, then you get these higher numbers. So there are lots of variables that would likely make the exposure less.

When the wind's blowing in a direction that isn't toward people, it dissipates, there is less exposure; and when the wind's blowing faster it disperses much more readily.

SUSAN PASTOR: Any more questions? Okay. Then we will move into our comment period.

The comment period works a little bit differently than the questions and answers so it's very important when you stand up and you want to give a comment,

first of all, raise your hand, I will call on you and when you give that comment you can state your name again for the court reporter, this time maybe you can spell it if it's a tricky name so he can get it down correctly. And state your comments in the form of a comment, not a question, because we need to respond in our document later on to comments and we aren't able to answer questions in that document.

So if you have questions later on that we need to go back to, we can be around for a few minutes and do that but you need to state your comments in the form of a comment. So with that let's start the comment period. Who has a comment? Who would like to go first?

DAVE EISENREICH: I will. May I use this?

SUSAN PASTOR: Yes. And speak clearly so the court reporter can hear you.

DAVE EISENREICH: My name is Dave Eisenreich, I'm vice-president of administration at Marathon Electric.

One of my responsibilities is the coordinating of the Superfund activities as it relates to Marathon Electric.

Marathon Electric has been involved in this matter for some time now. Our principal effort has been aimed at seeking constructive solutions to the groundwater

problem that was found in the City of Wausau. To that end we and the City early on conducted a large scale study of soil and groundwater conditions on the west side of the Wisconsin River.

Our share of this study cost well in excess of a hundred thousand dollars and developed valuable data I think which helped us in understanding the scope of the groundwater contamination problem on that side of the river. We also passed that information on to the Department of Natural Resources and to the EPA.

In addition, in 1987 Marathon Electric and the City jointly proposed to the agency the installation of an extraction well to remove contaminants. We are awaiting final approval from EPA of our plans for that well and hope to move forward quickly once approval is obtained with the actual installation so that pumping can begin before the winter season.

The cost of the extraction well project is substantial, as you might imagine, and when combined with Marathon Electric expenditures previously made on this Superfund project, will total in excess of $850,000.00.

Marathon Electric also has been working cooperatively with the EPA and the DNR toward the final resolution of this problem.

While we've not had an opportunity to go

over in detail the proposed feasibility study and the proposed remedy, we are encouraged and support the agency in its proposed practical solution to the remaining soil contamination issues.

Wausau Chemical, the City and Marathon Electric have joined together in an effort to negotiate an agreement with EPA and DNR under which this group would perform the remedial work that Margaret has referred to earlier.

Our group, however, faces significant issues such as the high costs associated with the work done by Warzyn for the EPA, which we understand to be in excess of one milion dollars, and the lack of participation in the group by all the potentially responsible companies.

Marathon Electric in conjunction with the City and Wausau Chemical intends to voluntarily work with the EPA and the State in hopefully resolving these issues and reaching final agreement in this matter.

Thank you.

SUSAN PASTOR: Okay. Who -- the gentleman in the back.

JAMES CHERWINKA: My name is Jim Cherwinka and I'm president of Wausau Chemical Corporation.

Wausau Chemical has been actively addressing the problem of solvent contamination on its property since

a solvent spill occurred in September of 1983. At that time a fitting on a storage tank broke during cold weather and a solvent was released.

Some of the solvent was immediately recovered from the frozen surface of the ground and the snow cover. In cooperation with the Wisconsin DNR, Wausau Chemical Corporation undertook an investigation of the extent of the contamination remaining and in the spring of 1984 dismantled the tank storage area and removed a thousand cubic yards of contaminated soil.

As a result of the further investigations Wausau Chemical installed a groundwater extraction system in October of 1985 to address the solvent contamination of the groundwater in the area of, area of a former storage tank.

After being winterized the system has been in operation nearly continuously since June of 1986. This system is currently removing about one and a half pounds of solvent per day. We estimate that the extractor has removed nearly 2000 pounds of solvents since its startup.

Wausau Chemical has invested significant time and financial resources in its cleanup efforts. My company has incurred costs in excess of $750,000.00 to investigate and remove solvent compounds from the environment.

Wausau Chemical believes that the proposed plan to accomplish final remediation of the Wausau well field both as a whole and as to Wausau Chemical's own facility is a sound approach.

We will continue to study the specific technical and financial aspects of the plan for possible future comment.

Wausau Chemical is committed to its responsibilities to deal with the impacts of its operation on the environment. It is hoped that the proposed work plan will be adopted by the EPA and that the responsible parties, including Wausau Chemical Corporation, can work together to implement these actions in a cooperative and cost efficient manner.

SUSAN PASTOR: Another comment?

WAYNE KLEINSCHMIDT: My name is Wayne Kleinschmidt. I am president of the City Council.

I would like to make my comments in light of the assumptions that were given up here by both the DNR and the EPA.

I would like you to know that there are a lot of noted authorities throughout this country that do not agree with the theory that -- that you have heard expressed up here, namely, the threshold theory, and there is a lot of dispute as to, you know, who is right. So take

my comments in light of what they have said.

Members of the EPA, DNR and other concerned individuals. Speaking both as a citizen and as a city councilman, I concur with the EPA choice of alternative five as the cleanup solution. I feel this is a prudent approach that will best address the cleanup problem and yet not bankrupt the community, provided these estimated costs that we've heard don't escalate out of sight.

SUSAN PASTOR: Okay. Yes, sir.

JOHN ROBINSON: My name is John Robinson, I am the mayor of the City of Wausau. I appreciate the opportunity to comment tonight and to appear in support of the Environmental Protection Agency's recommended remedial action as outlined in the feasibility study option number five as later modified.

Unfortunately, the price went up to reflect the cost of the operation of the air strippers at the -- for wells three and six.

Also reflect a little bit upon the site. The site developed problems back in 1982 when a resident took his drinking water from home and had it tested and found contaminants in the site.

Subsequent to that the City of Wausau began to take action to minimize the effect on the public's health and safety through a variety of methods, which

included shutting down wells, blending of wells, using granulated activated carbons to treat the water, using air strippers in conjunction with the grant from the Environmental Protection Agency, completing a river crossing from the west side to the east side to allow us to treat contaminated wells on the west side and the installation of well number ten.

Through that process of hiring attorneys, consultants in the taking of these measures, the City has spent in excess of 2.5 million dollars. So when you talk tonight about the need to spend an additional $738,000.00, you need to think of that in terms of the eight hundred thousand that has been spent by Marathon Electric, the seven hundred fifty thousand spent by Wausau Chemical, and 2.5 million expended to make sure that the drinking water in this area is safe to the public. And that's always been one of our concerns and we have always met those standards.

Unfortunately, the group of potentially responsible parties could not agree back in 1987, which resulted in the Environmental Protection Agency stepping up its role in this process and that expanded role included the selection of a consultant, namely Warzyn, who we continue to have concerns over the quality or the process under which that consultant was chosen and the costs surrounding that.

In addition to the costs that we've incurred and the costs that have been outlined tonight, the responsible parties face the likelihood of having to divide up an additional 1.8 million dollars of EPA and DNR oversight costs which are associated with the Warzyn study, work done by DNR and by the EPA staff, which those figures have not been thrown out tonight.

So while we are supportive of those efforts, we are concerned about those costs, the impact those have upon the efforts of the group to clean up, those costs resulted in the group breaking up back in 1987. We are also hopeful that the Environmental Protection Agency uses due diligence to make sure that all potential responsible parties including Wausau Energy are included in whatever remedial action and orders come out of this and are involved in consent decree negotiations.

We are supportive of option number five. Our preference would be option number one, recognizing that we have done a lot to date, but recognizing it's very difficult for the EPA to make that recommendation in light of some of the public health concerns that have been expressed.

SUSAN PASTOR: Does someone else have a comment they would like to make?

Okay. Well, if no one else would like to

make a comment at this time we will close the comment period.

I just want to remind you all that you can mail your comments to EPA, you can send them to me, the address and the phone number and everything you need is on your agenda and your fact sheet. Please have them postmarked by September 12 so we have ample time to respond to those comments and they will be a part of our public record, just like your oral comments were here tonight.

If you need more time to look over some documentation, we have information repositories which are just notebooks and a compilation of documents put together. One is at the Marathon County Public Library, one is right here at the City Hall and the clerk can help you here or a reference librarian can help you there.

So if you'd like to look at the entire feasibility study, proposed plan or remedial investigation or anything else that happened during our work during the past couple of years, that is all available to you here and you may use those documents to comment on as well.

Otherwise we will adjourn the meeting then and I guess there is a council meeting here as soon as we can clear our things away. And we thank you for coming.

(Whereupon, the proceedings terminated).

STATE OF WISCONSIN)
) ss.
COUNTY OF MARATHON)

I, Gary Jon Davis, do hereby certify the foregoing to be a true and correct transcription of my stenographic notes taken in this action.

GARY JON DAVIS
Certified Shorthand Reporter
Notary Public