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TRI-CITIES DIOXIN COMMUNITY MEETING

November 6, 2008

6:30 - 9:00 p.m.

Horizons Center, 6200 State Street, Saginaw

REPORTED BY: Natalie A. Gilbert, CSR-4607, RPR
StenoTech Reporting
4570 Howley Court
Saginaw, MI 48638
(989) 245-4591

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CHUCK NELSON: I want to welcome you here

3 tonight to the November 6th Tri-Cities Dioxin
4 Community Meeting. Just a few ground rules and
5 thoughts for tonight. My name is Chuck Nelson. I'm
6 the facilitator. I work for Michigan State University
7 Extension and I'm happy to be here with you for I
8 don't know how many times this has been but quite a
9 few. Some things I'd have you note, on the back of
10 the agenda are the ground rules for tonight. I see a
11 few new faces here. The ground rules, just to
12 emphasize the importance of respect and letting each
13 presenter have their say, and we've done a great job
14 here being civil and learning a lot about this process
15 and this situation and hope to continue that tonight.

16 Cheryl has asked me to note two things on the
17 back table. First is that there is a public notice
18 about the intent to issue a renewal of the operating
19 license for the Salzburg landfill. Public comment
20 period began November 3rd and ends December 19th.
21 There's information about that back on the table with
22 Cheryl and the large document that goes with it is
23 available on the web.

24 The second thing is the Michigan Department of
25 Natural Resources has a draft Tittabawassee River

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1 assessment now which looks at the physical and
2 biological characteristics of the river with suggested
3 management strategies. This is prepared by DNR
4 Fisheries Division. This is also out for public

5 comment and will be available. The comment period
6 will carry through January 16th, 2009. So again
7 another opportunity for you to participate. Those
8 documents are also available on the web. Again
9 there's a handout back with Cheryl.

10 The third thing I would have you note tonight,
11 one of the things that we'll be discussing is the next
12 scheduled community meeting to be determined. The
13 Michigan Department of Environmental Quality is under
14 a mandate to hold future meetings at State owned
15 facilities, so it is unlikely we will be at this
16 facility. We are going to discuss some alternative
17 locations. One of those locations that has been
18 discussed is Saginaw Valley State University but this
19 is a State mandate that the DEQ folks have to respond
20 to and they are working to do that in a manner that
21 still provides good public access as we can do. So
22 please weigh in when that opportunity comes.

23 So time now for introductions. John, do you want
24 to do it first for Dow here, because I know Al is
25 going to present first.

3

1 JOHN MUSSER: Sure. Ladies and gentlemen,
2 thanks for being here this evening. We appreciate
3 your presence. Without further ado, I'd like to ask
4 all of the Dow people that are here this evening and
5 [are our](#) consultants to please stand and identify yourself
6 and your affiliation. Starting with my replacement, I

7 will be retiring at the end of this year, Mary Draves.
8 JIM COLLINS: Jim Collins, epidemiology.
9 STEVE LUCAS: Steve Lucas, Dow remediation.
10 TODD KONECHNE: Todd Konechne, project
11 leader.
12 PETER WRIGHT: Peter Wright, attorney for
13 Dow.
14 GREG COCHRAN: Greg Cochran, Director of the
15 Dioxin issue for Dow.
16 BOB BUDINSKY: Bob Budinsky, toxicologist,
17 Dow Chemical.
18 LESA ALYWARD: Lesa Alyward, Summit
19 Toxicology.
20 JACK ZABIK: Jack Zabik, risk assessment.
21 MIKE CARSON: Mike Carson, Dow physician.
22 DAVID GUSTAFSON: David Gustafson, Dow
23 Environmental.
24 SEAN ROARK: Sean Roark for ENTRIX.
25 JOHN MUSSER: Very good. Thank you.

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1 CHUCK NELSON: Jim, do you want to come up
2 and introduce the folks from DEQ, DCH and the EPA?
3 JIM SYGO: I'd also like to welcome you all
4 today. It's a nice balmy November evening but we'll
5 try to get through this, and can I have the staff from
6 DEQ stand up first? We have George Bruchmann, Steve
7 Buda, Al Taylor, Deb MacKenzie-Taylor, Frank Ruswick,
8 Art Ostaszewski, Terry Walkington, and then in the

9 back of the room we have Cheryl Howe, and I think
10 that's it from DEQ staff.

11 Community Health, in the back of the room, we
12 have Kory Groetsch, Linda Dykema, and we're also
13 pleased to have some members of ATSDR here today, if
14 you'd stand up, Mark Johnson, Marian Pavuk and Steve
15 Durwent, and then finally EPA, we have Ralph Dollhopf
16 who is here from EPA, Greg Rudloff, Mario Mangino
17 toxicologist, Mark Durno, Jeff Kimble, Brian
18 Schlieger, Marick Hanzs in the back of the room, Patricia
19 Krause, she's here somewhere, oh, there you are, and
20 that's the ones I have. Did I miss anyone? Keith
21 Budinski. That's it for us.

22 CHUCK NELSON: I do also want to note that
23 the members of the U of M Science Advisory Board, some
24 of them, are with us tonight. Do you want to
25 introduce those very quickly, Dr. Garabrant, just go

5
1 to the mike there?

2 DR. DAVID GARABRANT: Members of the Science
3 Advisory Board, Dr. Ron Hites from Indiana University,
4 Dr. Linda Birnbaum from U.S. EPA, Dr. Marie Sweeney
5 from NIOSH, and Dr. Paolo Boffetta from the
6 International Agency for Research on Cancer.

7 CHUCK NELSON: Thank you. Al, I think we're
8 ready for you.

9 AL TAYLOR: Good evening. My name is Al
10 Taylor. I'm a geologist working on the project. I'm

11 a member of a team of scientists and engineers that
12 have been working on the Dow Chemical remediation
13 project for probably upwards of 15 years now. I'm
14 going to give a brief overview or an update on
15 corrective action activities on the Tittabawassee
16 River and Saginaw River over the last year. There's a
17 lot of work in here that Dow has accomplished and I'm
18 warning Dow right now I'm not going to hesitate to
19 have you come up and help out with something where I
20 am not being exactly complete. So with any luck,
21 we'll be able to get through this in the 40 minutes
22 which we've been allotted to do this.

23 I just want to take a brief overview. Dow
24 Chemical is up over here. There's a lot of work going
25 on up in this part. The Tittabawassee River flows

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1 south to the confluence of the Shiawassee and flows
2 the Saginaw River which flows north out into the
3 Saginaw Bay and we'll touch base with this kind of
4 rosetta stone map here several times during the
5 evening.

6 Quick background, we're looking at the lower
7 24 miles of the Tittabawassee River. Primary
8 contaminants, dioxins mainly furans at this point.
9 Other contaminants that are important, chlorobenzenes,
10 parathion, chlorostyrenes, hexachlorobutadiene, and a
11 number of others. It's not limited to a dioxin and
12 furan problem. Primary source mainly for the dioxins

13 and furans is Dow Chemical Company in Midland,
14 Michigan, and target population obviously is we're
15 very concerned about people living along the
16 Tittabawassee and Saginaw Rivers and the recreational
17 users of the rivers and Bay.

18 Current activities, right now they're at the end
19 of a three-year characterization process for the
20 Tittabawassee River, a remedial investigation workplan
21 process for at least the sampling portion of it.
22 There will be additional sampling necessary, but what
23 has been done is that a methodical approach has been
24 used to investigate contamination from Dow and we're
25 going to discuss how that's gone forward this year.

7

1 Under Dow's Part 111 operating license, which is
2 its hazardous waste operating license, Dow has done
3 quite a bit here. Within 2006 and 2007, they've
4 investigated the upper 16 miles of the river
5 floodplain and about 10 miles of river sediment. The
6 balance of that work down to the confluence with the
7 Shiawassee is occurring now and is actually at the end
8 of that process and should be done this year. Quite a
9 few samples have been collected for both dioxins and
10 furans and other potential contaminants of concern.

11 It's used a process called the GeoMorph process
12 to more efficiently direct the sampling. You know,
13 10,000 samples seems like a lot of samples and it is,
14 but this is a very large study area and this is a much

15 more efficient way to go about the characterization.
16 They're on track my understanding is to complete the
17 additional characterization work from the
18 Tittabawassee River and floodplain at the end of this
19 year and perhaps even by the end of this week is my
20 understanding for most of that work. As part of this,
21 the Part 111, their hazardous waste license activities
22 and corrective action supported early actions such as
23 IRAs that we'll talk about a little bit, some pilot
24 activities or pilot feasibility studies, and CERCLA
25 removal actions conducted by U.S. EPA.

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1 This year's GeoMorph investigation was limited to
2 the 6 miles of floodplain, the lower 6 miles of
3 floodplain down to the confluence. They have quite a
4 bit more in-channel sediment characterization to
5 complete this year and that's basically from about
6 Freeland Road, if you're familiar with the area, down
7 to the confluence of the Shiawassee. Most of the
8 floodplain work has been completed. There are some
9 areas that have not -- that Dow has not been able to
10 get access for to collect samples and they're going to
11 be required to conduct best efforts under some kind of
12 program to get that data. They're probably going to
13 be some additional work necessary to complete the
14 investigation phase, some mop up from this year, and
15 to move into feasibility studies and corrective
16 measures design.

17 The next four slides were provided by Dow to help
18 provide an update of just how many samples were
19 collected and when. We'll just kind of cycle through
20 these. Obviously, in the upper Tittabawassee River,
21 which is what this is looking at right here, that
22 provides a good summary of approximately 550 locations
23 sampled in the sediment itself and about 550 in the
24 overbank, pretty balanced, and those are just
25 locations. Each location has multiple samples

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1 associated with it.

2 Same thing for the middle, the middle was quite a
3 bit larger than the upper. It's about 11 miles total,
4 so the overall sampling frequency was quite a bit
5 more, especially in the overbank. Also important to
6 note is a number of samples have been collected, not
7 at the same frequency obviously, but for other
8 contaminants of interest which are important.

9 And in the lower, which is this year, this is 221
10 for the lower 6 miles expected locations in-channel.
11 They're looking at about 1700 samples for dioxin and
12 furan analysis and another 90 samples for other
13 contaminants besides dioxins and furans. Same type of
14 program for the overbank or the floodplain sampling
15 program. In summary, this is what has been done this
16 year by Dow. It's quite impressive and it's quite a
17 campaign that they've gone through this year.

18 I just wanted to, it looks like some of these got

19 cut off a little bit, go through what a typical
20 sampling profile looks like. This is kind of in the
21 upper middle Tittabawassee River section closer to
22 Freeland and you can see that these are sample
23 transects coming across the river. They're sampling
24 in the river and this kind of gives you an idea of the
25 frequency that we're looking at, if you think of the

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1 river as being about 300, 400 feet wide. Also notice
2 kind of the lip of the floodplain in here.

3 As we move downstream in many areas, this
4 broadens out, and it still has this kind of transect
5 methodology, and this effect continues as you move
6 down towards the confluence. The dots here, I should
7 have backed up, just to give you some reference, the
8 oranges and reds are higher. Light green is I think
9 between 1,000 and 5,000 parts per trillion TEQ. The
10 orange is 5,000 to 50,000. Then I don't know if we
11 have any reds. That one might be a red. It's hard to
12 tell up here. Red samples are in excess of 15,000
13 parts per trillion TEQ. So this would be kind of a
14 typical agriculture field. Here's some residential
15 properties adjacent to it.

16 As we go further downstream, this is kind of in
17 the lower Tittabawassee River, the sampling strategy
18 changed a little bit this year I think mainly in
19 response to how wide the floodplain had become and the
20 number of samples that had to be collected in the

21 in-channel portion going all the way up to Freeland.
22 In this case every sample along the transects, these
23 block dots, were not sampled. Triangles were sampled.
24 So the black dots represent samples that were
25 collected and analyzed for things like soil

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1 characteristics and archived and they can be retrieved
2 and analyzed if further data is necessary to interpret
3 like what's going on in here. The determination is if
4 that one dot there is not adequate to characterize
5 these areas then these other samples could be pulled
6 for analysis. I think the triangles are the ones that
7 we're actually waiting for analysis on now.

8 Just a little bit more information on kind of the
9 overall sampling. This is the upper, middle, and
10 lower overbank locations. These are all of the
11 locations at least as of October 27th and these
12 histograms just basically show the distribution of the
13 samples where the maximum concentration occurred, if
14 it was in the surface or right at the surface, within
15 the upper 1 foot, or the maximum occurred somewhere
16 other than the surface or upper 1 foot, and in this
17 case we're looking at greater than 1,000 parts per
18 trillion properties. So over here is greater than
19 1,000. Over here is 90 to 1,000 parts per trillion,
20 and what's I think significant here is in a number of
21 cases the higher concentrations or a significant
22 portion of the higher concentrations are either at the

23 surface or in that upper 1 foot.

24 This is looking at residential property sampling
25 that has occurred and we have a total of about 115

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1 properties that have been sampled here. Same concern
2 essentially is that there are elevated concentrations
3 in the surface and in the upper 1 foot and in some
4 cases those outweigh the maximum concentrations which
5 would be lower. Now when you get over to these
6 greater than 10,000, a lot of times the higher
7 concentrations are at depth and I think that reflects
8 a lot of the levee deposit samples that we'll talk
9 about in a little bit.

10 Looking at the in-channel or the sediment itself,
11 a little bit different picture here. Between 100 and
12 1,000, again we're looking at the greater than 1,000
13 here, but if we just look at this slice over here, you
14 see in the sediment that lower concentrations
15 typically are at depth and that bears out on the maps
16 as well. The maximum concentrations tend to be
17 buried.

18 Let's move into the IRAs and other high priority
19 investigation and remedial pilot activities in 2008.
20 I tried to break this up a little bit different than
21 is on the agenda. We're going to look at the near
22 plant source area, which is the Former 47 Building or
23 also known as the Founders Park interim response
24 activity, the Reach D interim response activity.

25 There's something called the historic outfall

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1 investigation. We also know that as H-12. There's a
2 brine pond investigation and a 2008 RGIS upgrade. I'm
3 really not going to talk really at all about that.

4 It's just other activities that were ongoing at or
5 near plant source areas that we're investigating.

6 Tittabawassee River bank stabilization and
7 monitoring pilots, here is where Dow has conducted or
8 is implementing pilot programs to stabilize eroding
9 banks along the river which contains some of these
10 higher levels of dioxins and furans and just keep them
11 from getting back into the river. Here we have the
12 downstream in-channel deposits where enhanced
13 monitoring evaluation is occurring and we'll talk
14 about that a little bit. These downstream in-channel
15 deposits are areas where in the sediments themselves
16 there's quite high concentrations of dioxins and
17 furans and other compounds and those are being looked
18 at to determine if earlier action needs to occur. The
19 Saginaw River sediment trap pilot project and the
20 utility worker notification program, also known as the
21 Miss Dig program.

22 The Former 47 Building, this is Dow's historic
23 administration building or former location of that on
24 the Dow plant site. It's at the very upper end of the
25 Dow property. The building used to be in this area.

1 This is the Loons baseball stadium over here, the
2 minor league baseball stadium. It's kind of right
3 across from this. This was being turned into a
4 potential park area and Dow identified some historic
5 chlorine cells or chloro-alkalide cells used as riprap
6 along the bank earlier this year and that resulted in
7 a removal action. These have been identified as
8 having quite high concentrations of furans in
9 particular and other compounds associated with them.

10 This is what the material looked like along the
11 bank once the vegetation that was there was scrubbed
12 off. It looks like busted up asphalt really. This
13 material was removed down to the native clay
14 typically. I thought they did a very, very good job
15 of that. They had guys out there with gloves hand
16 picking up the chunks and throwing what the excavators
17 missed in the piles for disposal at the landfill and
18 that's what it looked like before it got vegetated.
19 They regraded this. Now there's riprap in. This area
20 over in here was addressed later in the season, just
21 in September and October, and this is what it looks
22 like now. They've put in sod, trees, and fencing to
23 limit site access.

24 This is what the material looks like lying around
25 on the ground. It provides a unique opportunity for

1 us because this is some of the historic source

2 material that has resulted in, you know, contamination
3 of sediments and soils downstream. This gives us a
4 good opportunity to learn something about this
5 material. This is one of the anodes. That's a foot
6 for scale to give you an idea of what it looks like
7 and there's other rubble that really looks like cast
8 asphalt lying around on the ground which were part of
9 these historic cells and there's quite a bit of them.

10 We did collect some samples of this material,
11 busted it up very fine, and sent it off to our lab for
12 analysis, and this is just a piece lying around on the
13 ground, not particularly unique, and that had a TEQ of
14 about 140,000 parts per trillion or 140 parts per
15 billion. One of these anodes we busted up was about
16 73,000 parts per trillion.

17 Besides the anode area, the riprap area that was
18 addressed, there is riprap, this chlorine waste cell
19 material, in the river as well, and besides dioxins
20 and furans, there's other contaminants associated with
21 it. This represents some of the step-out sampling
22 that has occurred away from this area, and what's
23 going to happen is in I think January of this year Dow
24 will be submitting a plan for remediation of the
25 in-channel work or addressing the in-channel work.

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1 The other compounds, not surprisingly because it did
2 look like cast asphalt, there was a lot of asphalt
3 like contaminants in there. There was some metals

4 that had elevated levels of cadmium in there and some
5 herbicide type compounds as well.

6 Reach D is immediately downstream from this area.
7 This is the area that we were looking at over here,
8 the Founders Park. Reach D is a cell that was
9 partially addressed by the CERCLA removal action last
10 year. Now -- two years ago or last year, two years
11 ago, sorry, they all start to fade together now after
12 a while. This was sheet piled off and a bunch of
13 contaminated sediment from inside the sheet piling was
14 removed. The remediation was based on the presence of
15 dioxins and furans but there's also a lot of other
16 stuff in there, and so after a substantial volume of
17 performance based volume with dioxins and furans were
18 removed, this transitioned into an interim response
19 activity to try to address the other compounds that
20 were present there.

21 So now this is moving forward to capping. We
22 have a plan in-house for capping this material, the
23 residuals that are left over after dredging. There's
24 also going to be a need to address material on the
25 outside of the cell. This is just to give you an idea

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1 of that sheet piling in here. Sampling has been
2 conducted on the outside of this and there are
3 significant non-dioxin and furan contaminants outside
4 of that, like hexachlorobutadiene, hexachlorobenzene,
5 and a number of other compounds. So it's going to be

6 a technical challenge for Dow to address this because
7 this is quite a large hole in the river right now and
8 they have contaminant sediment on the outside of it.
9 They're going to have to figure out a way how to cap
10 this with a nice clean cap. Once you remove the sheet
11 piling, you'll have a bunch of dirty stuff coming in
12 and contaminating it. So they'll figure out a way to
13 do it.

14 The cap itself is going to be about 18 inches of
15 sand and gravel material over the top of this interior
16 cell and that will be proved out over time by
17 monitoring and toxicity testing. We don't have a lot
18 of experience with capping these types of things in
19 Michigan, so we'll be treating it somewhat as a pilot
20 to see if it actually reduces concentrations to
21 adequate levels. If it doesn't, obviously, they'll
22 have to do more work.

23 The H-12 outfall investigation is something that
24 is necessary to look to determine if there are any
25 more areas like this adjacent to the plant site. Dow

18

1 had a number of historic outfalls, and this is a shot
2 of the plant site from approximately I think this is
3 the early 1940's oblique shot but you can actually see
4 this is the 47 Building right here and that was that
5 area that was remediated, the Founders Park area.
6 That outfall right there is the one that's thought to
7 have caused this deposit down here. It's interesting

8 this was sheet piled off back in the 1940's to kind of
9 channel the contaminated water, we think, away from
10 the water intake over on this side, but also you can
11 see some of the historic waste treatment ponds along
12 the river, and all of these things had outfalls to the
13 river that are requiring investigation as part of the
14 corrective action program now.

15 Here's a good example. This is a mid 1950's
16 overhead shot of Dow Chemical. There's one of the
17 brine -- the number six brine pond, if people are
18 familiar with the site. These are those ponds along
19 the river right here. This is the river and this is a
20 discharge. You can actually see the discharge here,
21 and this area down here actually is one of the ones
22 where we found some of the higher concentrations of
23 non dioxin and furan contaminants. This is just a
24 closer shot. So using information like those aerial
25 photos and historical knowledge of the plant site, you

19

1 know, Dow has mapped out all these historic outfalls
2 and those are what's being investigated as part of the
3 H-12.

4 This is that area that I showed you before, and
5 this kind of gives you an idea, same kind of work
6 that's being done up at Founders Parks, step-out
7 sampling away from these areas to figure out what's
8 there, where is it, how much is there, what depth is
9 it, and there's quite a list of compounds in some of

10 these areas. This is one of the worst areas that have
11 been found to date. It's got quite a bit of the ethyl
12 parathions right at the surface and some pretty high
13 levels of hexachlorobenzene at depth. Also just
14 interesting is this is some of the high resolution
15 bathymetry that's been conducted on the bottom of the
16 river. You can actually see the sand waves on the
17 bottom of the river. This is such good resolution for
18 bathymetry.

19 Quickly on to eroding banks, bank stabilization,
20 anyone who has been to one of these meetings knows
21 that this is a subject near and dear to my heart.
22 Eroding banks are a significant issue on the
23 Tittabawassee River. These banks often will contain
24 high levels of dioxin and furan in these levee
25 deposits. They're active sources of contamination as

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1 they erode back into the river. It's a significant
2 and widespread problem along the river. Consistent
3 with EPA and MDEQ guidance, we want to control these
4 sources into the river. We want to do that early.
5 One of the things that is being done right now is
6 piloting some different technologies for a softer
7 footprint of trying to address these banks, other than
8 dumping a bunch of riprap on the bank to stabilize it.
9 It's not very attractive and it's not good for habitat
10 and things like that.

11 We're looking at what we're calling a softer

12 footprint but it's got to be effective. Dow has been
13 working on a pilot actually for really two years now.
14 Although a pilot workplan was approved on July 10th,
15 some work associated with Reach L kind of started this
16 work. This is Reach M. You can see there's quite a
17 bit of bank erosion going on. This is not that
18 atypical of the river here. You see trees fallen in,
19 a lot of exposed soil. This is important because
20 these levee deposits right at the edge of the river
21 typically contain some of the highest concentrations
22 that we see. This red area up in here in this case at
23 Reach M is in the area of 50,000 parts per trillion.
24 This is a core that was taken going into the bank like
25 this and you can see the depth and the concentrations.

21

1 So typically you got this kind of hot core, and as the
2 river moves over time, which rivers do, it exposes
3 that and it gets back into the river.

4 Dow has mapped these eroding bank areas. This is
5 the same area of Reach M that we're looking at,
6 looking at the potential for erosion, something called
7 BEHI potential, bank erosion hazard index, and also
8 with concentrations, because you know, we really are
9 not that concerned about them if there's not high
10 concentrations or actually that might be a good thing
11 for covering up other contaminations, but when there's
12 high contaminations and a high potential for erosion,
13 it needs to be addressed.

14 I know I've shown this like three times at these
15 meetings. I think this is just fascinating where they
16 demonstrate where the shoreline in 1937 was out here
17 and it's moved about almost 100 feet in 2004. These
18 rivers do move, and that's what the area looks like
19 today. This has been stabilized. These were made up
20 of about pillow sized bags of polypropylene that are
21 filled with sand and top soil. Then that provides a
22 base for vegetation to seed into. These are tied in
23 to the bank back this way to keep them from moving
24 out. From what I understand, it's a very complicated
25 process actually to put these in.

22

1 That bank that we saw before which was pretty
2 vertical was cut back. Material was taken to the
3 landfill. Some clean sand was put in behind it and
4 these bags were placed and established here and the
5 whole purposes of these bags is to get vegetation to
6 establish on the bank and to lock those bags in. So
7 the bags probably are most important right at the
8 beginning of the process. This is a little bit later
9 on. You can see that they've got an irrigation system
10 here to get the vegetation going. This actually
11 started quite late in the season and they worked very
12 hard to try to get vegetation established on these.

13 Now you can see that this is starting to green
14 up. They put about -- I want to say I think there
15 were 13,000 bags that were placed in this particular

16 application and then there was like three plant plugs
17 per bag, so it's something like 36,000 or 39,000
18 plants that were hand placed. It's a very labor
19 intensive process and then trees were added at the
20 top. This is starting to green in over here. This
21 board of bureaucrats over here are the Natural
22 Resource Damage Assessment Trustees that are out
23 taking a look at this work.

24 This is Reach O which had a similar application
25 of these bags. This was earlier this spring and then

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1 this is this fall where it gets very -- you can't even
2 tell the bags are there really at this point, so quite
3 hopeful that this is going to work. We'll have to see
4 how it survives a Tittabawassee River winter with ice
5 rafting and ice flow and ice damage and flooding in
6 the fall and spring but I'm pretty comfortable that it
7 will based on all the efforts that went into it.

8 Also part of this process is monitoring banks,
9 this is across the way here, for erosion under
10 different conditions, because one of the more
11 difficult I think or challenging issues here is going
12 to be to figure out how you can monitor these banks
13 and actually see a difference between the two. So
14 there's actually monitoring going on eroding banks
15 that are not stabilized and banks that are partially
16 stabilized.

17 In-channel deposits, basically this is an

18 overhead shot of the Reach O area that was part of one
19 of the CERCLA removal actions where materials were
20 removed from there but an in-channel deposit is where
21 there is a spatially associated high concentration
22 deposit of dioxins and furans in this case in the
23 river. It could also be other contaminants of
24 concern. Things we're looking at in terms of
25 considering in-channel deposits for interim response

24

1 activities, that is, taking it out of order and
2 dealing with it early in the process rather than later
3 is, how stable is it, how exposed are the elevated
4 concentrations, are there uncontrolled sources
5 upstream that make recontamination of the area likely.
6 We try not to have the situation where you dig
7 something up and make it all clean and then have it
8 recontaminate because you had eroding banks upstream.
9 Can it be efficiently and effectively controlled now
10 and what additional information is necessary to make a
11 decision.

12 This is Reach J area. These are maximum detected
13 concentrations here and you see these reds are quite
14 high. For example, that's 24,000 parts per trillion.
15 There's some 20,000s in here, but if you look at the
16 surficial concentrations, it's quite a bit lower, you
17 know, back basically in the less than 100. This is
18 what this color green means. In some areas, there's
19 elevated concentrations at the surface and those are

20 the ones that we're looking at more carefully to see
21 if more work needs to be done sooner rather than in
22 sequence with the bulk of the remediation.

23 There's a complete look across the river. This
24 is the JK area that had -- this was the non soft
25 footprint bank work that was done earlier. That's

25

1 also turning out quite well. What we're trying to do
2 here is address surface concentrations that are high
3 as IRAs if necessary, collect additional data to
4 determine or verify the stability of the deposits Dow
5 is proposing to leave in place in the short-term,
6 basically we're field validating models, comparison of
7 channel conditions between years using bathymetry,
8 erosion pins, and scour chains. So you look at what
9 it looked like in 2007, look at the bathymetry and
10 elevations in 2008 and see if the thing has actually
11 gone away or moving.

12 We're doing some sediment toxicity testing to
13 determine how toxic it is to the critters that are
14 trying to live on it, and if it's acutely toxic, that
15 will be a trigger for us to take care of it at least
16 in the short-term and all of this is meant to
17 determine if there's more aggressive actions that need
18 to be taken. This is an example of an erosion pin and
19 scour chain distribution and this is on Reach L which
20 is just downstream. There's another area that's quite
21 elevated just downstream of Gordonville Road Bridge.

22 The Saginaw River sediment trap pilot. This is
23 an IRA that was initially required by the DEQ but
24 we've deferred it because of the dredging that is
25 scheduled -- actually it was initially scheduled for

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1 late summer and this fall. Now they've changed it
2 possibly for this fall because they're having
3 contractor issues getting over here and I don't really
4 know if they've actually started that work or not yet.
5 It remains an IRA option for the future. This work
6 was done down here. This is the Saginaw River here.
7 This is the confluence. That's the Sixth Street
8 Turning Basin which is at the top of the maintained
9 navigational channel in the Saginaw River. There is
10 another turning basin that's abandoned upstream a bit,
11 the Ojibway Island Turning Basin, that was also looked
12 at.

13 There is a new report out as of October that was
14 completed under the ADRM process, which means
15 alternative dispute resolution mechanism, which looked
16 at the feasibility of sediment traps in the Saginaw
17 River. That's available on the DEQ website. It
18 involved measurements of bathymetry, sediment
19 contaminants, cores, bedload, particle size, and water
20 column contaminants, and looked at again those two
21 locations, which is the Sixth Street Turning Basin
22 which is further downstream again at the top of the
23 maintained navigational channel, this is where the

24 Army Corps would dredge, ending here on the Saginaw
25 River and going out to the Bay, and then the Ojibway

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1 Island Basin is further upstream and is now abandoned
2 because the bridge no longer goes up for the bigger
3 ships.

4 Conclusions of this report are the bedload in the
5 Saginaw had the highest concentration of contaminants
6 versus water column particulate. I don't think that's
7 a particularly surprising conclusion but what the
8 report did demonstrate is that sediment traps were
9 effective at capturing medium and coarse grained
10 bedloads and what's different about this site from a
11 lot of other persistent bioaccumulative toxic sites is
12 that there's quite a bit of dioxins and furans
13 associated with sand sized particles. Typically you
14 see them in clays and highly organic materials. Here
15 you can have 99 percent medium sand with very little
16 organic matter in it and have tens of thousands of
17 parts per trillion of dioxin in there and we think
18 it's because of those chunks of particles like we saw
19 up at Founders Park. The rate of bedload movement is
20 event driven, meaning storms, freighters, things like
21 that help to move it around.

22 The next step, Environ is proposing to do some
23 additional modeling to evaluate the long-term
24 performance of the Sixth Street Turning Basin, and the
25 TWG, which is an acronym for Technical Working Group

1 under this ADRM is looking for ways to implement
2 better sediment management in the Saginaw River as a
3 whole and I think Frank is going to talk about kind of
4 managing this whole system kind of more holistically
5 in a little bit, Frank Ruswick, in one of the later
6 talks here.

7 Again this is bathymetry of the Sixth Street
8 Turning Basin. The idea is that as water moves across
9 a hole in the bottom of the river a cross sectional
10 area increases which allows the water to slow down.
11 When the water slows down, particles can drop out.
12 It's a very simple concept. It works great for things
13 like sand. It doesn't work at all for things like
14 suspended, you know, muddy water. That's not going to
15 help but it can get stuff like this. The contact on
16 the TWG is Art Ostaszewski and he will be happy to
17 talk to you for hours about sediment traps.

18 Finally, looking at disturbance and management of
19 soils in areas with potential dioxin and furan
20 contamination, that's a long way of saying we want a
21 system in place to alert utility workers who do soil
22 excavations in and along the Tittabawassee River the
23 potential for contacting high contamination. So Miss
24 Dig is an example of the type of mechanism that can be
25 used. Anyone who is familiar with this, if you're

1 going to do excavation work around your house or
2 anywhere, you call Miss Dig. They come out and put
3 flags all over the place and show you where the lines
4 are. There's also a mechanism here where if they pull
5 a permit and it's in a particular area, they could
6 say, oh, by the way, you should take these precautions
7 while you're working in that area.

8 A workplan was submitted by Dow on October 10th.
9 It's under review by the DEQ and I think this is
10 wrong. I talked to Todd Konechne this morning who is
11 the Dow Project Manager working on most of these IRA
12 projects before and this has not been submitted to the
13 Miss Dig Executive Board yet. I think they're waiting
14 on us to okay that. So that slide is not accurate
15 from my understanding, and this is just an example of
16 utility work along the river, kind of an extreme
17 example, and contact information if you have any
18 questions. Thank you very much.

19 CHUCK NELSON: Any questions, comments, or
20 clarifications for AI before we move on to EPA's
21 presentation? Seeing none, thank you, AI. Jeff,
22 you're next.

23 JEFF KIMBLE: Again my name is Jeff Kimble.
24 I'm an on-scene coordinator with EPA, and before I get
25 started, I think she's still in the room, I just

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1 wanted to introduce also our consultant for EPA, Diane
2 Russell with Westin Solutions in the back. She's

3 provided our oversight during this cleanup and I just
4 wanted to recognize them for that.

5 At the last meeting, we talked about the
6 Administrative Order and Consent between EPA and Dow
7 to deal with the exposure unit one and the
8 contamination that was done out there. This
9 presentation tonight is really just to show what that
10 process has been through the cleanup. The cleanup has
11 gone pretty successfully well in my determination and
12 we're going to just discuss that briefly. Again it
13 was based on the AOC that was signed in the spring and
14 that agreement spelled out what was required in this
15 area and again this is a residential setting along the
16 Tittabawassee River where elevated dioxins were found
17 in the top 2 feet of soil pervasive throughout the
18 neighborhood. It was consistent. It was throughout
19 the neighborhood. So a cleanup was mandated and that
20 was agreed to under the AOC and most of the on-site
21 activities have been completed or are in the final
22 stages of completion now.

23 And those that we're going to discuss included
24 physical removal and off-site disposal of dioxin
25 contaminated soils from the site, both on the

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1 residential properties themselves and what we call a
2 transition zone which surrounds those properties, and
3 also indoor cleanup because of migration of those
4 soils and dusts just from normal activities that

5 people partake in, driving up and down the road, which
6 was the only the dirt road in the City of Saginaw we
7 could find, what we've done with that, and to clean
8 the indoors of those homes through several different
9 mechanisms up to and including carpet replacement.

10 Some of the issues still remaining that are being
11 discussed now are -- we've initiated discussions now
12 that the actual physical cleanup portion of this
13 project is about complete are going to be what happens
14 afterwards and we're just starting those talks now on
15 monitoring. Since this work has been done, how do we
16 monitor for the near future and longer term to make
17 sure that the integrity of the cleanup remains. Again
18 as I discussed, the reason for doing this was to
19 remove the dioxin contamination that was found in the
20 neighborhood, get rid of it, and again we're going to
21 monitor that going forward, and the stages of this, it
22 was really up to Dow to get the agreements from the
23 residents, to initiate the work, and to write the
24 plans for this.

25 This is the area I was talking about. What's

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1 shaded in pink is what we considered the actual true
2 residential portions of the property and the
3 surrounding two areas would be the transition zones.
4 The area around the houses themselves, what's
5 considered the actual residential property to the
6 river and bound by the road, there was actually an

7 agreement that 2 feet of soil would be removed from
8 there and replaced with clean fill up to at least the
9 original grade of that soil and 1 foot in the
10 transition zone as well and I will discuss that
11 further here in a second.

12 Here's a picture of just when they started
13 digging what it looked like once the grass and
14 everything was removed. Again these were residential
15 yards. And around the houses, right up to the houses,
16 including sidewalks and walk areas and up to the river
17 and up to the road, 2 feet of material was removed,
18 except around trees. We tried to preserve the large
19 trees and Dow hired contractors and consultants to do
20 that to look at ways to dig up as much as they could
21 around those while not harming or killing the mature
22 trees and that seems to have been successful so far.
23 Once they had dug the 2 feet, they backfilled like we
24 said to at least the original grade and in the end
25 actually created somewhat better slopes just from

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1 appearance sake in the way they designed it out there
2 and then in the residential yards themselves they
3 actually replaced it with sod, so that right after the
4 cleanup was done, the 2-foot removal was done, pretty
5 much right away the residents had a yard back for use.

6 This included the flowerbeds, patios. They did
7 some work underneath the patios putting down gravel to
8 prevent contact with the soils, and in the transition

9 zones, again the same is as in the residential areas,
10 there was a demarcation layer that they put down
11 because we're doing performance based removal and not
12 basing it on any other factors. It was based on
13 2 feet in the residential yards, 1 foot in the
14 transition zones. When they got to the grade of
15 digging after they were done, they would put down a
16 fabric and then backfill the clean material over that
17 so in the future we'll know where the levels are that
18 the digging stopped at. Again in some of this area on
19 the eastern edge of the transition zones, there was a
20 slight berm that was elevated there but culverts were
21 left open to allow the drainage in and out of the
22 areas as it is now.

23 Here's a picture of the demarcation fabric we
24 were talking about. It's just a black demarcated
25 fabric material that was laid out over the bottom of

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1 the excavation area and that was filled over with
2 clean material and then sodded, and once the outdoor
3 work was done, they started -- and we'll see the
4 paving in a minute of the road, too. The indoor
5 cleanup was done down to and including carpet
6 replacement and one of the reasons we wanted to show
7 this picture is this is what EPA and DEQ were mostly
8 concerned with. With just cleaning carpets or steam
9 cleaning, if at anytime in the future that carpet was
10 replaced, there was still going to be fine particle

11 sediments that may have dioxins attached that somebody
12 may become exposed to, and from our sampling indoors,
13 we did show dioxin contamination inside the houses.

14 So the carpet in these units was removed. The
15 hard surfaces beneath would be cleaned and new carpet
16 put back so you're starting with a clean environment
17 after the cleanup was complete. Also, you know,
18 cleaning of upholstery, mattresses, any other hard
19 surfaces, buffing the floors, the countertops, other
20 hard surfaces inside the units was completed, duct
21 work as well. Also this surficial cleaning was also
22 done in workshops, sheds, garages, anywhere that the
23 residents were going to have active contact
24 potentially with dioxin dust contamination that might
25 have migrated in from the old dirt road or tracked in

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1 from the yards.

2 And this is a picture of what happened on the
3 roadway. The roadway itself was excavated. 6 inches
4 of materials at least was removed down to a level
5 where Dow contractors could then grade it and put in a
6 new roadway that would in turn reduce any dust in the
7 air. If there were to be any flooding or future
8 contamination, one of the concerns would be that the
9 dirt road that was there was creating a lot of dust
10 generated in the neighborhood and our samples from the
11 springtime sampling event showed dioxins in the dirt
12 itself of the road that was blowing throughout the air

13 in the neighborhood in excess of 1,000 parts per
14 trillion over much of the roadway.

15 So again they removed 6 inches of soil from that
16 and this number here is pretty impressive, and in
17 this, we do recognize Dow's consultants and
18 contractors and Todd Konechne that Al mentioned
19 earlier as the project manager. I think they did a
20 very professional job out here on this project. The
21 cleanup was conducted within the AOC. Any issues we
22 had were quickly worked out and it's pretty impressive
23 in this short amount of time, you know, over 21,000
24 tons of material were removed, replaced, regraded,
25 resodded, and seeded on these properties. In addition

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1 to that, the old roadway was paved. So here's the
2 paving of Riverside. This is the old dirt road. As
3 you can see now, the entire road is asphalted and
4 should reduce any further dust exposures into the air
5 and that is pretty much the summary of where we're at
6 with the cleanup at exposure unit one.

7 CHUCK NELSON: Questions for Jeff? No
8 questions for Jeff. Thank you, Jeff. We're moving
9 rapidly ahead of schedule but we've got an attorney
10 coming up now, so Frank, you'll get us back to
11 reality. You go from a college professor to an
12 attorney, I mean, things might slow down. I have to
13 kid Frank a little bit.

14 FRANK RUSWICK: I guess I should just say

15 I'm speechless after an introduction like that. I'm
16 Frank Ruswick. I'm the Senior Policy Advisor for the
17 Department of Environmental Quality, and along with
18 Deputy Director Jim Sygo, I've been asked to
19 coordinate the Department's response to this off-site
20 dioxin contamination. I think we all recognize the
21 size, scope, and complexity of this project. We all
22 have invested a lot in it and much work has been done
23 in recent years, as I think both Al and Jeff have
24 aptly demonstrated. We've taken steps to address
25 immediate exposure risks at residential properties,

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1 collected thousands of samples on the Tittabawassee
2 River and its floodplain. There's been a tremendous
3 amount of effort put into understanding the dynamics
4 of the river system, the distribution, fate, and
5 transport of contaminants, continued source control
6 measures near the plant site, and initial feasibility
7 studies for evaluating remedial options down the
8 river.

9 We are now coming to a point in the process that
10 will require the combined resources of the MDEQ and
11 U.S. EPA in order to implement site-wide or
12 system-wide remedial measures. This will allow the
13 Agencies to balance the need to move quickly; yet,
14 assure we have an adequate understanding of the system
15 to make appropriate decisions for a comprehensive
16 remedial solution. As a result, the EPA and MDEQ have

17 recently developed and jointly proposed to Dow a new
18 strategy for organizing and appropriately expediting
19 our work. I would like to lay out for you the key
20 components of the strategy.

21 First, we have to recognize how the site can be
22 managed to allow separate and timely work on the
23 various independent and interrelated components of the
24 system. One is addressing contamination on the Dow
25 plant site. Dow is undertaking activity as part of

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1 its corrective action responsibilities under its
2 hazardous waste operating license. This includes
3 active controls on the plant site, along with removal
4 and in place controls in the Tittabawassee River
5 contiguous to the plant site.

6 Second, in the City of Midland, DEQ and Dow are
7 continuing a dialogue for a solution under Dow's
8 hazardous waste license. With respect to the
9 Tittabawassee River and its floodplain, the Saginaw
10 River and Saginaw Bay, we believe we should treat this
11 as an interrelated system under what's known as the
12 Federal Superfund Alternative Site Process in a manner
13 that addresses both Dow's RCRA and Part 111 hazardous
14 waste obligations.

15 The strategy is to work on the rivers and bay
16 consistent with the nature and extent of information
17 that is available. In the near term, this would mean
18 advancing work to control contaminant sources on the

19 Tittabawassee River in an upstream to downstream
20 sequence. This approach recognizes that the data
21 collected on the Tittabawassee River allows us to
22 begin making remedial decisions and physically
23 addressing contaminated areas; although, some
24 additional data collection may be necessary. It also
25 provides to us the ability to address near term

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1 exposure or transport risks. We would also plan in
2 undertaking some near term activities on the Saginaw
3 River to interrupt the flow of contaminated sediments
4 along the line of the sediment traps that Al explained
5 and to evaluate the potential for residential
6 exposures in some areas along the Saginaw River.

7 And finally, this approach would entail longer
8 term baseline monitoring on the Saginaw River and
9 Saginaw Bay to evaluate the impact of cleanup
10 activities on the Tittabawassee River. There are
11 several advantages to what we call the SAS process or
12 the Superfund Alternative Site Process. These are it
13 allows us to conduct work under an adaptive management
14 approach. We can learn as we move from an upstream to
15 downstream manner and as we move forward. It allows
16 the EPA and the DEQ to work collaboratively on a team
17 approach and we would continue to work closely in
18 coordination with the Natural Resource Damage
19 Trustees.

20 The agreement if one is reached with Dow would be

21 embodied in an administrative order and the public
22 would be invited and provided an opportunity to
23 comment on the development and implementation of that
24 order. There would be a public dialogue at the
25 beginning of the negotiations and again before the

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1 order is finalized. With respect to the current
2 status of this proposal, the EPA and DEQ have formally
3 proposed negotiations under the SAS process to Dow.
4 We are awaiting a response which is due by
5 November 10th as to whether or not Dow would like to
6 participate.

7 If so, we anticipate the process would formally
8 begin with the issuance of a document called a special
9 notice around mid December. The SAS process envisions
10 up to 90 days to negotiate an agreement. If Dow
11 chooses not to enter negotiations, then the DEQ and
12 EPA would consider our other alternative options under
13 both our RCRA, hazardous waste, and CERCLA
14 authorities.

15 So that's what we currently have underway. As
16 I've said, we've made this proposal jointly on behalf
17 of the DEQ and EPA to Dow. We have discussed it with
18 them and we are awaiting a response now.

19 CHUCK NELSON: Everybody is beautifully on
20 time. Questions for Frank on what he just talked
21 about?

22 AUDIENCE MEMBER: I have two. The simpler

23 one is this is all focused on Dow but it was a
24 system-wide plan. What about the other major
25 corporate potential players in this? If you're

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1 talking about looking at the whole river and bay,
2 aren't there some other historical problems that might
3 need to be addressed? If you don't have an answer to
4 that now, I can take it later.

5 FRANK RUSWICK: We think that the evidence
6 is clear with respect to the Tittabawassee River that
7 the issues are Dow's. As we move down through the
8 system, there are some other players that may be
9 involved, but the process would allow recognition of
10 that.

11 AUDIENCE MEMBER: I guess I should have said
12 I'm from Bay City, so what I'm concerned about is down
13 river and the bay. Is there anyone from SOS here, the
14 group that monitors the bay shore? Because I have
15 friends who live on the bay but I can't really speak
16 for SOS.

17 AUDIENCE MEMBER: I live on the bay. My dad
18 is part of SOS.

19 AUDIENCE MEMBER: So maybe what I say might
20 agree or disagree with the group.

21 AUDIENCE MEMBER: I'm more concerned about
22 the Kawkawlin River and the mouth of Saginaw River and
23 Bay.

24 CHUCK NELSON: Okay. You just do it, and

25 then, sir, you'll get your chance. Go ahead.

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1 AUDIENCE MEMBER: These sediment traps, it
2 would seem to me that you would want to have them in
3 place before you do major things like dredging
4 upstream or some of these other remedial activities.
5 So my question I didn't -- I thought I heard that the
6 sediment traps are being deferred for some period of
7 time. It would seem to me that's what you would want
8 to get in place first and so I'd like that addressed.

9 FRANK RUSWICK: I think you're exactly
10 right. The idea we have in mind here is to structure
11 work upstream to downstream as a whole but we would
12 undertake activities downstream that would be
13 consistent with that. One thing we would propose
14 would be sediment traps to interrupt the flow of any
15 sediments that might be resulting from the work that
16 was occurring upstream, and downstream also would be a
17 monitoring function that would allow us to evaluate
18 the nature of the work that was occurring upstream.
19 So that's precisely the concept that we have in mind
20 is to address the system as a system but to start
21 working, start physical activities, final remedial
22 activities on the upstream on down.

23 AUDIENCE MEMBER: After the sediment traps
24 are in place?

25 FRANK RUSWICK: Yes. Those are the things

1 that would need to be worked out but that would be our
2 approach, that's right.

3 AUDIENCE MEMBER: That's EPA's and DEQ's
4 position going into the negotiations with Dow?

5 FRANK RUSWICK: Yes.

6 AUDIENCE MEMBER: Thank you.

7 CHUCK NELSON: Other questions, other
8 comments? We're at the time when you can ask about
9 anything you've heard or anything else.

10 AUDIENCE MEMBER: Well, if I could follow up
11 on that gentleman's comments about sediment traps, the
12 elephant in the room seems to be the Corps of
13 Engineers. When AI made his presentation, he seemed
14 to indicate sediment traps, despite their apparent
15 usefulness in trapping these large particles and
16 cleaning the river and preventing contamination from
17 going downstream, they were going to be deferred
18 because of the dredging, and we know from the
19 environmental assessment that was done by the Corps of
20 Engineers that the EPA waited and said that they were
21 concerned because the banks, the sediment would be
22 destabilized as a result of that dredging. Of course,
23 we all know that the Corps ignored that comment, and
24 apparently, they're being deferred, too, when it comes
25 to the sediment traps, and I just want to know when

1 these sediment traps are going to occur, if, in fact,

2 we just simply defer to the Corps and the dredging
3 process.

4 AL TAYLOR: I think that's a good comment.
5 The deferral of the sediment traps, they're deferred
6 as an interim response activity. What Frank is
7 describing or has described, and I assure you he'll
8 correct me if I mistake this, is that the sediment
9 traps would be a component of the site-wide management
10 program. So that as remedial activities occur on the
11 Tittabawassee River sediment traps would be
12 implemented to prevent the continued migration to the
13 extent practical, sediment traps being what they are,
14 during that time, because it's going to be a multiyear
15 process obviously to implement remedial measures on a
16 system as large as the Tittabawassee River.

17 The idea would be to interrupt to the extent
18 possible continued sediment migration down river
19 during that time and so that there is some benefit
20 occurring for the Saginaw River and Saginaw Bay
21 portion of this during this time, and I think it's
22 important to recognize that you need to move upstream
23 to downstream in something like this because it
24 doesn't help anyone to clean up a spot in the middle
25 of the contamination or downstream of the

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1 contamination and then have it be recontaminated and
2 have to be addressed again in the future. Obviously,
3 this is a very complicated and exceptionally expensive

4 process and we really only want to do this once.

5 So that's the concept behind the proposal for the
6 operation of the sediment traps, and the deferral is
7 only as an IRA. We're not trying to defer the
8 concept. The objection is as an IRA. The reason it's
9 being deferred from this year is because dredging is
10 supposed to occur up in the Sixth Street Turning Basin
11 during this year which effectively is the sediment
12 trap or cleans out the sediment trap.

13 AUDIENCE MEMBER: I guess that's the part
14 that I don't understand, Al, because from what the EPA
15 said in their comments, there would be destabilization
16 that occurs because the Corps is not using
17 environmentally sound methods in terms of their
18 dredging. They're simply using a bucket and they are
19 going to destabilize the sediment. Why wouldn't you
20 want to have or require sediment traps during the
21 dredging process just to be safe to catch those
22 materials that are going to be disturbed moving
23 downstream?

24 AL TAYLOR: I think I understand the
25 question. This may not be the most politically

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1 correct answer but I'm going to say it anyway. I've
2 done a lot of sampling and spent a lot of time on the
3 Saginaw River and actually doing stupid stuff like
4 following freighters with sample bottles to try to
5 understand what the effect freighter traffic is and

6 prop wash is on the redistribution of those sediments,
7 and we actually have some pretty good video from that
8 where these large freighters disturb the bottom
9 sediment samples a tremendous amount and that level of
10 disturbance we believe -- we haven't quantified this
11 yet but I think that's something that we're going to
12 have to do as we go through this process -- far
13 outweighs the level of disturbance that would occur
14 during navigational or environmental dredging. Unless
15 the channel is deepened and that high concentration of
16 material is removed, it's going to remain a continuing
17 problem.

18 We think the dredging is necessary. It's a
19 necessary component of this. We recognize that
20 there's also going to be some re-suspension of
21 materials from the dredging process but we see that as
22 relatively minor compared to this other ongoing, you
23 know, two or three freighters a day going up and down
24 the river like a big mixer churning that stuff up, and
25 I think we've shown pictures at these type of meetings

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1 where you can see, you know, plumes of sediment behind
2 these freighters even as they're exiting out into the
3 Saginaw Bay, so definitely difficult choices are going
4 to need to be made.

5 AUDIENCE MEMBER: If I can just understand
6 this a little bit, I don't want to monopolize the
7 microphone, but the lower Saginaw River has been

8 dredged considerably and it's presumably deeper and
9 there has to be some sort of intermediate zone between
10 the elevated levels of sediment that gets churned up
11 and the deeper levels where sediment traps may still
12 be appropriate even for the disturbances that result
13 from the freighters that could be useful.

14 AL TAYLOR: And I think one of the things
15 that we have discussed -- and again we don't know how
16 this is going to be work out. We're fairly early in
17 this process but we do agree that it makes sense to do
18 these sediment traps at multiple locations along the
19 river and, in my perfect world, upstream of the
20 navigational channel rather than at the Sixth Street
21 Turning Basin where things get stirred up when
22 freighters move around, to be upstream of that so that
23 effect does not occur.

24 And the potential benefit might be to reduce
25 overall need for dredging because you're taking

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1 sediments out on a routine basis and, therefore,
2 they're not ending up in the channel, but I mean,
3 we're a long way away from that but I think your point
4 is an important one. You need to do -- you can't just
5 look at one spot. It might be at several spots along
6 the river, both the upper part of the navigational
7 channel and maybe above that and further down.

8 CHUCK NELSON: Let me just see, does anybody
9 else have a comment here as part of that? This

10 gentleman over here said something.

11 AUDIENCE MEMBER: Nope. You answered my
12 question, sir.

13 CHUCK NELSON: All right. I just want to
14 make sure. So go ahead, Terry.

15 AUDIENCE MEMBER: We just saw tonight a lot
16 of material, a lot of progress that has been made,
17 removals in several sites, the cleanup of Riverside,
18 the beginning of cleanup. Why the need for a new
19 approach if, in fact, over the past months we've seen
20 progress, we've seen movement, we've seen the
21 cooperation of both the DEQ and the EPA, and we've
22 seen RCRA and CERCLA working together on various
23 occasions? In the past, we have seen stoppage for
24 negotiations for seven to eight months. Why would we
25 want to consider another stoppage after we've seen

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1 some fairly successful cooperation between all three
2 parties and some action?

3 FRANK RUSWICK: Well, I think there's two
4 answers to that question. One is that the work that
5 you've seen, the investigatory work, has been done
6 under a plan that was structured about three years ago
7 and it's moved forward under that sequence. Some of
8 the other actions that you've seen, the remedial
9 actions, the removal actions, have occurred sort of
10 episodically. That is, they've been identified for
11 action and have occurred based on sort of site

12 specific circumstances. We think the approach that
13 we're talking about doing now allows us to do that
14 more systematically. It allows us to do remedial
15 actions from upstream to downstream rather than, you
16 know, here and there where we happen to hit hotspots
17 of contamination, so it allows us to be more
18 systematic about how we're going to approach this.

19 Secondly, while there has been a lot of work
20 done, there has also been issues between the Agencies
21 and Dow that we need to work out. We think this is a
22 better approach for trying to come to a process under
23 which we can have more fruitful discussions and make
24 more fruitful decisions. So, yes, we are making
25 progress. We think though the approach that we're

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1 putting in place here will allow us to set forth a
2 better system for addressing it systematically.

3 AUDIENCE MEMBER: How is this different,
4 Frank, from the previous process that was negotiated
5 with the company in order to expedite the process?

6 FRANK RUSWICK: The previous process, what
7 we call the framework agreement, set the stage for
8 getting to where we are today. People have had a lot
9 of criticism of that because they viewed it as
10 something that was done behind closed doors and set up
11 a process for getting work done. Well, guess what,
12 folks, how many community meetings have we had and how
13 much work have we shown you that we've accomplished

14 under that framework? That framework has been very
15 successful for getting us to where we are today, but
16 now we're in a different place. We've collected a lot
17 of information. We're able to make more final
18 decisions now and what we're proposing is a mechanism
19 for doing that. So we think it's an advancement of
20 where we've gotten to today.

21 AUDIENCE MEMBER: What happens during the
22 negotiations in terms of the various processes,
23 investigations, and removals that have occurred to
24 date?

25 FRANK RUSWICK: Well, we'd like to think

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1 that they'll continue. We will be in the off season.

2 I don't know what work we have planned during this
3 time period but we're not suggesting that work cease.

4 AUDIENCE MEMBER: Thank you.

5 CHUCK NELSON: Other questions, comments?

6 AUDIENCE MEMBER: Frank, I was wondering,
7 you kind of expounded on what was going to happen on
8 the Dow plant site in the City of Midland in the
9 Tittabawassee River. What's the immediate future for
10 testing sampling in the Saginaw River under this new
11 process?

12 FRANK RUSWICK: What the process outlines is
13 the purpose of the sampling that would need to be done
14 on the Saginaw River and Saginaw Bay. We don't think
15 those systems have been adequately characterized yet

16 but we don't think it makes sense to characterize them
17 until we do the work on the upper stretches. So the
18 theory, the thought process, behind which we would
19 process and develop a sampling program for Saginaw
20 River and Saginaw Bay would be in a near term as a
21 mechanism to evaluate the work that's occurring
22 upstream and then later we would determine what would
23 need to be done for purposes of characterization. So
24 it's that type of sequence that we're talking about
25 here.

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1 AUDIENCE MEMBER: Are you comfortable that
2 that's not in conflict with Dow's obligation under
3 that RCRA corrective action license which lays out a
4 timeline for the company's obligations on the Saginaw
5 River to sample and -- in particular I guess to
6 sample? You don't see this as a violation of Dow's
7 license?

8 FRANK RUSWICK: I don't know what the
9 timeframe is. It lays out -- the license contemplates
10 that a different process, a process more in line with
11 Superfund could control for activities on the Saginaw
12 River and Saginaw Bay. We think what we're talking
13 about here is consistent with that provision in the
14 license.

15 AUDIENCE MEMBER: I would like EPA to
16 respond to that, whether or not they think that Dow is
17 in violation of their license by not doing the

18 sampling that was required this year on the Saginaw
19 River, if it's allowed to extend into the following
20 year.

21 GREG RUDLOFF: Dow has submitted a workplan
22 for sampling along the Saginaw River and Bay, so they
23 are in compliance with the operating license at this
24 point and deferring the sampling to a later time as
25 part of a Superfund approach would still maintain

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1 compliance with the operating license.

2 AUDIENCE MEMBER: What would the deadline on
3 that be, Greg? Because my understanding was that Dow
4 submitted the workplan for the Saginaw River and Bay
5 and then they got a notice of deficiency and the State
6 then approved it with modifications and Dow didn't
7 like it and went back and rewrote another whole set of
8 workplans.

9 GREG RUDLOFF: Well, it was actually a scope
10 of work that was approved and modified.

11 AUDIENCE MEMBER: Okay. Thanks. So I guess
12 my next question is, what's Dow's deadline to submit
13 or give an approved workplan for sampling on the
14 Saginaw River?

15 GREG RUDLOFF: Okay. At this point the ball
16 is in the regulatory court for a response back to Dow
17 for that workplan. However, given the current state
18 of potential negotiations under Superfund, that will
19 probably be held off until we see how those turn out.

20 AUDIENCE MEMBER: Okay. And then one other
21 question I guess while you're up there, Frank can
22 answer it or you can. Are the Trustees going to be
23 involved, the Trustees of the National Resource Damage
24 Assessment? Are they going to be involved in these
25 negotiations with Dow Chemical, and just to follow up

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1 on that question, Frank, I want to know if the delay
2 in sampling on the Saginaw River, because the
3 responsibility of the Trustees is to ascertain the
4 loss to the community as a result of the
5 contamination, how is that going to possibly impede
6 the activities of the natural resource process?

7 FRANK RUSWICK: Okay. I'll let Lisa
8 Williams here who is from the Fish and Wildlife
9 Service and is one of the Trustees answer that
10 question, but in terms of the role of the Trustees, I
11 think it's fair to say that both EPA and DEQ believe
12 that the Trustees need to be integrated into this
13 process. I understand -- I won't speak for Dow but I
14 understand they agree with that as well. We have not
15 determined exactly how that's going to occur. One of
16 the fundamental approaches that we've taken all along
17 is to try to make coordinated decisions and to take
18 coordinated actions under the remedial process, the
19 cleanup process, and the natural resource damage
20 process. Although there are different players
21 involved, we recognize the interrelationship and we

22 want to continue that coordinated approach. I can't
23 tell you precisely tonight what that means or how it's
24 going to be done but we recognize it as a way of doing
25 business.

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1 CHUCK NELSON: Lisa, do you want to make any
2 comment here? This would be a good opportunity.

3 LISA WILLIAMS: To the extent that the
4 remedial process incorporates an adaptive management
5 strategy for part of it, the Trustees will have to
6 incorporate an adaptive management process because we
7 can't determine final damages until we know what the
8 final remedial solutions are but I'm not sure that
9 that actually answered the question you asked.

10 AUDIENCE MEMBER: My understanding all
11 along, Lisa, is that the responsibility and the charge
12 of the Trustees was to assess the damages and that in
13 order to assess those damages it was incumbent on you
14 folks to be provided sampling and data and
15 information. I mean, much to Dow's credit, the
16 sampling that was done on the Tittabawassee River was
17 phenomenal. I think the Saginaw River and the Bay are
18 entitled to that same amount of sampling, not just,
19 you know, so that the resource can be restored, that
20 public health can be protected, but that the whole
21 risk management issue can be addressed. So my
22 question for you, Lisa, is, is a delay in sampling
23 data and sediment sampling in the Saginaw River going

24 to delay your process in the charge of the Natural
25 Resource Damage Trustees?

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1 LISA WILLIAMS: Yes, it will. We need some
2 of the same kinds of data and we need more data on
3 time series, what concentrations were in the past and
4 what concentrations are likely to be in the future, so
5 we can't conclude our damage determination until the
6 remedial investigations and the remedial decisions are
7 rightfully made. So some things we can do and some
8 things that we will have to wait on.

9 AUDIENCE MEMBER: Okay. And as a lot of
10 people in this room will remember, back in June I
11 believe it was of last year, Dow and the Chamber of
12 Commerce invited a number of community groups to talk
13 about the Natural Resource Damage Assessment process
14 and how communities were going to be compensated by
15 Dow Chemical for their losses as a result of this
16 contamination in the river system and communities have
17 a right to be compensated and compensated in a timely
18 manner. This has gone on and on, and Frank, I'm
19 hopeful, I'm hopeful that this again is going to
20 expedite this process but I think there are a lot of
21 unanswered questions yet and you know we're going to
22 be there to ask those questions, so thank you very
23 much.

24 FRANK RUSWICK: If I could just make
25 comment, you know, we agree but we think that the

1 benefit of the approach we're talking about is to
2 expedite the remedial activities and that's the
3 primary benefit. We want to get that cleanup done.
4 Yes, damages will need to be paid, but we think the
5 priority is getting the cleanup work done.

6 CHUCK NELSON: Other comments and comments?

7 AUDIENCE MEMBER: I'm Harold Evans. I'm a
8 resident on Riverside Drive and my wife and I, when we
9 heard about this remedial plan, we viewed it as going
10 to be a very traumatic event in our lives but we want
11 to say that those who managed the project finished it
12 faster than we would have ever believed possible and
13 we appreciate their professionalism and their concern
14 and their consideration for all of our concerns from
15 the effect on our pets to saving favored trees and
16 plants and everything, and for that, we are very
17 grateful.

18 CHUCK NELSON: Thank you. Other comments?

19 AUDIENCE MEMBER: Another question around
20 the deferred sampling. I have no problem
21 understanding the need to clean upstream before
22 dealing with downstream because of the continued
23 contamination and the changing of the look that's down
24 there, but the question that I have is the highest
25 levels to date have been found in the Saginaw River.

1 The GeoMorph process, and I've learned more about the
2 dynamics of a river than I ever knew before just
3 listening to the presentations here, seems to be a
4 process that can really identify areas that
5 potentially have produced these levees of
6 contamination.

7 And I guess I'd like somebody to explain why the
8 GeoMorph process couldn't be used to identify some of
9 the locations on the Saginaw River that are indeed
10 hotspots that could and should probably be addressed
11 simultaneously with the upstream plan because of the
12 very nature of the river and the river traffic, not
13 only the dredging but again the shipping, and it seems
14 as though when we've seen presentations on the Saginaw
15 River we see these huge spikes in some locations and
16 it just doesn't seem appropriate to let them lie there
17 until we clean the Tittabawassee if, in fact, we could
18 address them now.

19 AL TAYLOR: Yes, I think the GeoMorph
20 process could be used to do that. There are other
21 processes, in fact, that could be used. Obviously,
22 I'm kind of biased for what seems to be working
23 upstream but Dow does have the option to propose
24 different methodologies working downstream as long as
25 they satisfy the technical requirements of the

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1 program. The issue really here is one more of
2 sequencing of work rather than whether or not it needs

3 to be more adequately characterized. I think as Frank
4 represented and EPA has represented we need additional
5 characterization of the Saginaw River, in particular
6 maybe the upper portion of the Saginaw River where
7 those quite high concentrations were identified, for
8 example, where the Wicks Park removal action occurred.

9 As part of this process, and I don't know how
10 well this came through, we're looking for enough data
11 to be developed early in the process to give what
12 would consider something of a baseline so that we
13 could understand, okay, here's what the levels of
14 contamination are in the Saginaw River and Saginaw Bay
15 right now, are they getting better as remediation is
16 implemented upstream. I think as part of that
17 baseline it should be robust enough to try to identify
18 are there other areas that need more immediate action
19 either in-channel or in the overbank and I think Frank
20 talked a little bit about looking at some of the
21 residential areas on the Saginaw River that may
22 potentially have higher concentrations.

23 We know the Saginaw floodplain is a much
24 different river system. It doesn't have nearly the
25 same contamination problem that the Tittabawassee

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1 River does but it is complicated by other aspects, one
2 of which is historically when they dredged the
3 sediments out of the river, rather than taking them to
4 a [CEFCDE](#), they would side cast them onto the banks on the

5 side. We don't have a good idea for what that means
6 yet in terms of the distribution of potential
7 contamination on the Saginaw River. So one of the
8 components of this proposal is to look at some of
9 these residential areas where the exposure potential
10 would be greatest and to do a decent level of sampling
11 there in order to understand that issue better, but
12 you know, establishing a baseline hopefully would be
13 robust enough to try to pick up any of these other
14 issues because Dow has done some what they term
15 pre-remedial investigation work back in the fall of
16 last year. Additional sampling has been done by the
17 Agencies as well as part of this process, and once we
18 figure out what level of information is adequate for
19 baseline, I think we're going to have enough to --
20 when we run into a hotspot, we'll know how to
21 recognize it and maybe look for others that may be
22 similar.

23 AUDIENCE MEMBER: So this will be part of
24 the negotiations then?

25 AL TAYLOR: I believe so.

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1 CHUCK NELSON: Dow has got a comment on
2 this, Victor.

3 VICTOR MAGAR: Thanks. I think my answer
4 would also be consistent with what Al said. To be
5 clear, we are using GeoMorphological processes on the
6 Saginaw River and that helped to inform us for the

7 sampling that we already conducted. We've done some
8 very detailed bathymetry, topography to look at many
9 of the same features that people were looking at on
10 the Tittabawassee River. This is a much more simple
11 river GeoMorphologically. So a lot of the
12 complexities, that very wide floodplain that we see on
13 the Tittabawassee River, and many of the
14 GeoMorphological features are simpler in the Saginaw.
15 That said, we're looking at point bars, depositional
16 areas, and the flow, the river behavior to inform us
17 of where we'll sample and how the ongoing sampling
18 will be conducted.

19 CHUCK NELSON: Other questions or comments?
20 Sir.

21 AUDIENCE MEMBER: I'm not sure who to
22 address this to. I assume it's EPA, but with the
23 Superfund, I was wondering if someone could give us an
24 update on its financial status. I don't know for a
25 fact but I hear rumors that those funds are running

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1 out, and if that's true, will there be any tax burden
2 passed on to the taxpayers to fund this process or
3 could you just elaborate on how this whole thing will
4 be funded? In the financial crisis that we're in
5 today, if it's true they do not have any money, will
6 that ~~distract~~drag this out forever?

7 CHUCK NELSON: Folks from the EPA.

8 RALPH DOLLHOPHE: My name is Ralph Dollhopph.

9 I've worked with EPA's Office of Emergency Response
10 within the office of Superfund. I'm afraid I don't
11 have a good straight answer to your question with
12 respect to the availability of funding to assure that
13 this work would happen, if that's what you're asking.
14 I can tell you that pre-authorization of Superfund has
15 been an issue for a number of years. The Superfund is
16 not as flush as it was at one point but I can also
17 tell you and ask you to remember as you look at the
18 progress that we've made here over the past 15 months
19 with the Superfund removal actions that we have really
20 strong enforcement authority under Superfund which is
21 always potentially backed up by funding and it hasn't
22 stopped us yet from making sure that the work gets
23 done.
24 The enforcement ability of CERCLA as assured by
25 the Department of Justice I think is strong and I

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1 think Dow recognizes that it's strong. I think DEQ
2 recognizes that it's strong and I think that's what
3 you should rely upon. I don't really have anymore
4 detail to offer you there. I can't tell you that
5 Superfund has X amount of millions of dollars to make
6 sure that Dow's project gets done but I can assure you
7 that as part of the process that Dow would be required
8 to assure us that it has enough money in the bank to
9 do the project. Any other questions about that?

10 CHUCK NELSON: Other questions and comments?

11 AUDIENCE MEMBER: I'm still not comfortable
12 with the answer to looking at the hotspots, doing the
13 studies, trying to figure out what's really there, and
14 then doing the remediation. It would seem to me that
15 if right now there are four hotspots that everybody is
16 pretty confident needs to be done and we take 18
17 months or two years to come up with the new studies,
18 the new sampling, and on that list of the 20 most
19 important things to do, those 4 are still there, I
20 would ask the question, why aren't the 4 worked on
21 immediately? Why wait the 18 months or whatever it
22 takes to do the study? If there are hotspots that are
23 identifiable as being so bad by whatever criteria, why
24 not go after them now rather than characterize the
25 whole river and the Bay and do a [Pradepriority](#) chart and find

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1 out what the top 20 are and employ those four right
2 there as number 3, 4, and 5? I don't understand why
3 the immediacy of taking care of the hotspots seems to
4 be delayed for a somewhat more widespread
5 understanding of the problems.

6 AL TAYLOR: I don't believe that's what's
7 being proposed at all. For the hotspots we discussed,
8 the Founders Park IRA, Reach D, the H-12 or the
9 historic outfall investigation, those areas especially
10 adjacent to the plant site which also happen to be --

11 AUDIENCE MEMBER: You're talking about the
12 Tittabawassee. I'm talking about the Saginaw River.

13 I don't pretend to know anything about the
14 Tittabawassee River.

15 AL TAYLOR: To my knowledge, we haven't
16 identified -- I don't know what four hotspots you're
17 talking about. We are proposing to look at these
18 residential areas in the short-term.

19 AUDIENCE MEMBER: So there are at the
20 present time on the Saginaw River no identified
21 hotspots that has appeared in previous newspaper
22 articles? If I'm incorrect, I'd like to be incorrect.
23 I was under the assumption that there had been some
24 degree of analysis of what went in the Saginaw River
25 and there were places where for certain physical

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1 energies what was there was way out of bounds from
2 what should be there.

3 AL TAYLOR: Yes, there are areas in the
4 Saginaw River with elevated concentrations and there
5 are large areas. I mean, they're not hotspot kind of
6 areas. I think you may have seen some of the Google
7 Earth presentations of where you see these kind of
8 large red bars along the river. Those are areas that
9 would be addressed to some extent in the short-term by
10 dredging under this program, the navigational
11 dredging. We'd also be looking at trying to interrupt
12 the contribution of additional contamination to the
13 lower portion of the Saginaw River by this sediment
14 trap evaluation. There have been some hotspots

15 identified on the Saginaw River via, you know, the
16 Wickes Park removal action where they found some quite
17 high concentrations there. Things like that show up.
18 I think they're going to have to be addressed as part
19 of this process, not, you know, at some unidentified
20 point in the future.

21 RALPH DOLLHOPE: I'd like to just support
22 what Al had to say there and also follow on to some
23 comments that Frank made about the new approach. The
24 new approach is intended to be action oriented. We
25 have demonstrated over the past 15 months a real

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1 strong ability to work collaboratively with DEQ to get
2 these hotspot type situations dealt with sooner than
3 later. Riverside is an excellent example. So in the
4 context of the new arrangement and in the context of
5 the Saginaw River, we would expect -- if we identify
6 hotspots pursuant to some expedited assessment, we
7 would expect to use what we call removal authority
8 which is the same type of authority that we're using
9 at Riverside to get work done sooner than later.

10 That's one of the flexibility benefits of CERCLA and
11 so I just want to stress that and make sure that you
12 understand that.

13 AUDIENCE MEMBER: Will you stay there,
14 please, because this kind of goes along with his
15 question about Superfund and money. St. Louis you're
16 having problems because you don't really have a

17 company that you can make pay, okay, and you are short
18 of money. So when you start trying to do something
19 right at St. Louis, the Pine comes into the
20 Tittabawassee, the Tittabawassee into the Saginaw. So
21 are we going to put some holes in the Pine to try to
22 keep this stuff once you start getting money to do
23 something right in St. Louis?

24 RALPH DOLLHOPPE: Well, I'm not familiar with
25 the communication of the Pine River and the

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1 Tittabawassee. I would defer to somebody from DEQ on
2 that. Al, do you want to help?

3 AL TAYLOR: The Pine River is a tributary to
4 the Chippewa which is a tributary to the Tittabawassee
5 River, and obviously, the former Velsicol site is a
6 remarkably bad little site of environmental
7 contamination. It has some very high levels of DETDDT
8 and other compounds. That work is being done through
9 the State Superfund program. I believe there is
10 removal of contaminants up there occurring. Now it's
11 going to -- there are big issues with that, including
12 I believe with the water system as well, but there is
13 work being done to interrupt that.

14 As part of this process, and actually we talked
15 about this with Dow and ATS within the last week and I
16 didn't bring it up in the presentation, we need to
17 develop a better understanding of background levels of
18 contamination on the Chippewa and Pine upstream of Dow

19 and on the Tittabawassee River upstream of Dow and
20 Midland because there are other sources of
21 contamination on the river and we need to figure out
22 which pesticides and herbicides rightfully belong to
23 Dow and need to be addressed via the corrective action
24 program or the SAS program and which are not Dow's
25 responsibility for putting them in there, and

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1 unfortunately, there's probably going to be a mix of
2 that, there's some of both, but that background
3 characterization is going to be an important component
4 of that, and if high levels are identified as part of
5 that, we will certainly work with the other site
6 managers or the St. Louis managers to address that but
7 it's an excellent point. There are other sites of
8 contamination even upstream of Dow in that watershed.

9 CHUCK NELSON: Other comments or questions?

10 AUDIENCE MEMBER: I noticed during the
11 introductions that some folks from ATSDR are here and
12 I have in my hand an environmental policy alert from
13 November 5th, 2008, and I'll just read the first
14 paragraph, the Agency for Toxic Substances Disease
15 Registry, ATSDR, has dropped key measures from its
16 guidelines for analyzing dioxin levels at waste sites,
17 a move that activists and State regulators say will
18 limit regulatory confusion and bolster efforts to
19 force cleanups at levels stricter than EPA's current
20 cleanup target. Could members from ATSDR speak to

21 that, because we haven't heard any kind of public
22 comment on this before, and then perhaps someone from
23 EPA or DEQ reacting to how that will affect
24 negotiations or the cleanup?

25 MARK JOHNSON: My name is Mark Johnson. I'm

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1 with ATSDR in the regional office in Chicago and I was
2 also on the work group that revised the dioxin policy.
3 The reason that we did this update was because of the
4 confusion that we've experienced with interpretation
5 of what we phrased in our initial policy of an action
6 level which was 1,000 parts per trillion of TEQ in
7 residential soil which also coincided with the
8 Superfund criteria for cleanup. However, we intended
9 that to be a guideline for making determinations about
10 the need for public health intervention strategies.
11 The experience we've had over the past four years is
12 that's been rather confusing what's been implemented.

13 Our decision was to simplify this, make it
14 consistent with the way we conduct health assessments
15 for all of the chemicals. As a result, we decided to
16 delete with the term ~~monaxon-action~~ level. It wasn't very
17 useful in defining public health strategies. We never
18 intended it to be a criteria for cleanup. That's not
19 the role of our agency. We're part of the Center for
20 Disease Control. Our role is to be advisory and to
21 provide guidance to system making decisions but we
22 don't set those and that was part of the confusion

23 because there was some perception that use of that
24 action would serve that purpose. That was the reason
25 behind deleting that and revising our policy. The

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1 statement you're referring to I think is a
2 misrepresentation of that intent and I think it's a
3 misunderstanding that in some way we need to clarify
4 that.

5 CHUCK NELSON: Any comment from DEQ or EPA
6 further on this matter?

7 RALPH DOLLHOPPE: Terry, I will just add that
8 as you know EPA's 1998 dioxin cleanup policy has a
9 cleanup standard of 1,000 parts per trillion for
10 residential direct contact center areas, and although
11 we are aware of and recognize the significance of
12 ATSDR's recent development, I'm not aware, to answer
13 your question, about how that would impact the
14 hopefully upcoming negotiations or discussions with
15 Dow. I don't see how they would infringe upon that
16 right now. So that's all I can tell you right now.

17 CHUCK NELSON: Any additional comments?
18 Seeing none right now, Jim, could you talk a little
19 bit about future meeting sites then because we've
20 mentioned Saginaw Valley State University? We may get
21 back to some additional comments but I want to be sure
22 we cover this today.

23 JIM SYGO: Although we are searching out
24 other potential State sites, and as was mentioned

25 earlier in the meeting, due to budget constraints and

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1 the Department of Management and Budget policy, we're
2 supposed to be searching those State sites out and
3 using a State site prior to potentially using an
4 out-of-State site. So this being an out-of-State
5 site, we're still in the process of doing that. I
6 know Cheryl Howe was originally investigating that.
7 There are some rooms at Saginaw Valley, and Cheryl,
8 have we made any final determinations on that?

9 CHERYL HOWE: No, we have not yet made any
10 final determinations. I've just tried to set things
11 in motion so that we can -- if we do decide that we
12 need to set up some quarterly meetings, I have things
13 lined up to do that. I've gone and taken a look at
14 all the rooms there. I think we've determined that
15 SVSU might be a little closer for most folks than
16 perhaps Delta College. If anybody knows of any other
17 potential locations that would fit the criteria of
18 State owned, we're interested in hearing that.

19 CHUCK NELSON: Cheryl, how big a room are
20 you looking for, how many people do we need to seat?

21 CHERYL HOWE: I think we're set up for
22 around 100. We did have to bring in a few more chairs
23 again tonight. Some of the options I looked at, they
24 have a recital hall that will seat like 170. We want
25 to go with that sort of auditorium setup. They have

1 banquet rooms that can be used. They have some
2 seminar rooms. Some of the folks who may have gone to
3 the recent meeting at SVSU, they were in the seminar
4 rooms there. We usually can get a couple together.
5 So there are some pretty good options there at SVSU.
6 It's just a matter of seeing where the process goes
7 and whether DEQ or EPA will be setting up future
8 meetings and then taking a look at where the best
9 options are located for us.

10 JIM SYGO: It's probably likely we're going
11 to end up at SVSU but what we wanted to do is make
12 sure that people that are regularly attending this
13 meeting watch the papers and look for the next
14 quarterly meeting announcement because there may very
15 well be a change in venue and that's basically what we
16 wanted to make sure people were aware of.

17 CHUCK NELSON: Thank you.

18 CHERYL HOWE: And if anybody has any
19 comments if they want to send them to me, you know, if
20 you've got the e-mail reminder for this meeting, go
21 ahead and e-mail me any comments you might have or
22 make some tonight. I'll see that they're distributed
23 to the appropriate people if they do come to me by
24 e-mail.

25 CHUCK NELSON: Thank you, Cheryl. Any other

1 comments now about the full agenda items tonight or

2 any other issue tonight?

3 AUDIENCE MEMBER: This question is for EPA,
4 Ralph, I guess you can answer this maybe. Under the
5 Superfund alternative site agreement, what mechanisms
6 would you or have you in the past negotiated or would
7 you envision for enforcement if things start getting
8 bogged down and Dow is not performing? Because at the
9 end of the day, it's always involving enforcement as
10 well intentioned as everybody may be.

11 RALPH DOLLHOPPE: You're asking, if we enter
12 into an agreement with Dow under the Superfund
13 alternative site process to conduct work in the river
14 systems, what are we going to do if it breaks down,
15 and I can tell you that our first line always is the
16 elements of the Administrative Order andon Consent, the
17 actual administrative law document, which stipulates
18 that if a workplan is not followed through upon or
19 submitted or completed in a timely way that the
20 company is subject to stipulated penalties, so much
21 per day until it's done. That is always generally an
22 option to us in Superfund or CERCLA enforcement
23 scenarios.

24 Another option that is always available to us in
25 Superfund SAS or traditional Superfund remedial sites

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1 or Superfund removal sites is for EPA to do the work
2 itself. That is something that we always have as an
3 option. I mean, it's something that we've exercised

4 many times and then to seek damages from a company
5 that has recalcitranted or was otherwise unwilling to
6 do the work. So that is another option. I'm not
7 saying that we would do that in this case but that is
8 one of our set of options.

9 Another option that EPA always has is to try to
10 go to Court with the Department of Justice to make the
11 company complete the work pursuant to a Court order.
12 That doesn't happen a lot but it is another tool that
13 EPA has to make sure the work gets done. We're
14 hopeful that that's not the type of situation we're
15 going to get into here.

16 With respect to the new arrangement, Michelle,
17 and I think Frank spoke for DEQ accurately when he
18 said, we are trying to find a way to take advantage of
19 the progress that we and DEQ and Dow have made in
20 collaborating and working together, not always
21 happily, but we've made progress over the past 15
22 months or two years especially and we want that to
23 continue but we need to organize it in a more
24 systematic way so that we can get work done and not
25 have to go back and do it again. That's where the

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1 sequencing is so important and that's where, you know,
2 going after the Tittabawassee prior to the Saginaw is
3 so important.

4 And so to your question, we're hopeful that we
5 can move forward in a more cooperative spirit and that

6 we won't get into a situation where we have to pull
7 out enforcement tools or tools to insist that the
8 agreement be implemented as it was negotiated. I
9 can't guarantee that's the case but that would be our
10 hope and DEQ's hope and I think Dow's intent going in.
11 I think that's what we're trying to accomplish.

12 AUDIENCE MEMBER: And I hope so, too, but
13 you know, I just think it's really important just to
14 look back. In 2002 when Dow's corrective action
15 license was signed, we were told that this was finally
16 the path forward. After 20 years of dealing with
17 this, that the RCRA license in 2002 was the path
18 forward, and then things got bogged and stalled, and
19 then we went behind closed doors and we got the
20 framework agreement and we were told that this was the
21 path forward, and now things are getting bogged down
22 again and now we have another path forward. I hope
23 for the resources and the people of the watershed that
24 this is the final path forward and that's my rant for
25 the night.

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1 RALPH DOLLHOPPE: Well, actually, let me
2 respond to that because I had thought about making a
3 final comment on the transparency issue. Frank in his
4 remarks indicated that there would be substantial
5 public involvement prior to EPA and DEQ entering into
6 an agreement for a new path forward with Dow and I
7 want to assure you that EPA is committed to doing that

8 and that we intend to do that. We recognize the
9 transparency has been an issue historically with this
10 project and we don't want that to continue.

11 AUDIENCE MEMBER: But so long as you're
12 going behind closed doors with Dow and there is no
13 record of process and who's attending and what's
14 taking place, you are not honoring that, and again
15 you're very correct to say that, that transparency has
16 been a big issue for us all along. You know, the
17 Natural Resource Damage Assessment has a
18 confidentiality clause. The framework was behind
19 closed doors for eight months. The public was sent
20 out of that, and you know, I think it's really
21 important for all of you elected officials and Dow
22 Chemical to realize that we are the owners of these
23 resources. We are the last people who should be shut
24 out of closed door negotiations, my second rant for
25 the night, but the other thing I wanted to ask you

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1 was, as you go into these negotiations, are we looking
2 at the use of the State's 90 parts per trillion or
3 1,000 parts per trillion?

4 RALPH DOLLHOPHE: The cleanup standards are
5 something that's going to have to be negotiated and
6 considered as part of the negotiation process, whether
7 it's performance based work or State cleanup levels or
8 EPA's 1,000 parts per trillion, whether it applies to
9 a removal situation, whether it applies to a sediment

10 channel situation, a floodplain situation. All that
11 has to get worked out as the workplans are put
12 together. I don't think there's a simple, it's this
13 or that, answer to that right now, Michelle, quite
14 honestly.

15 AUDIENCE MEMBER: And so I just want to ask
16 then, what's the status of the bioavailability study,
17 the human health risk assessment on the Tittabawassee
18 River? I mean, is that pretty much defunct? Is it
19 gone? We haven't heard anything. There's been no
20 progress on it.

21 RALPH DOLLHOPPER: I am not familiar with it.
22 Somebody want to handle that from DEQ?

23 DEB MacKENZIE-TAYLOR: Michelle, the human
24 health risk assessment workplan was resubmitted as
25 part of the RIWP for the Saginaw River and Bay. They

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1 updated the Tittabawassee River human health risk
2 assessment workplan at the same time. That is in the
3 Agency's court right now. We were working on comments
4 on that and we're holding off on that until this
5 Superfund alternative process is worked out.

6 AUDIENCE MEMBER: Okay. Is that up on the
7 website, Deb?

8 DEB MacKENZIE-TAYLOR: The workplan?

9 AUDIENCE MEMBER: Yes.

10 DEB MacKENZIE-TAYLOR: I'm looking to
11 Cheryl.

12 AUDIENCE MEMBER: I haven't looked at it in
13 about a week.

14 DEB MacKENZIE-TAYLOR: We're not sure
15 because it was a very large document. So we think
16 maybe the text is on there but it had a lot of
17 attachments so I don't think all of it could have been
18 put up on the website. I think the text part of it
19 was small enough that it could be but I'm not sure if
20 it's up there. If it's not and you want it all, I
21 would recommend that you ask for a CD or DVD.

22 AUDIENCE MEMBER: No, I don't want the whole
23 thing, that's okay.

24 DEB MacKENZIE-TAYLOR: We can e-mail you the
25 text.

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1 AUDIENCE MEMBER: That would be great.

2 Thank you very much.

3 CHUCK NELSON: Any additional comments or
4 questions?

5 AUDIENCE MEMBER: I have just a short
6 comment. Jay VanHelton from Delta College. I'm just
7 going to offer up our facilities. Is anybody here
8 from SVSU? We do have the facilities and the reason
9 I'm bringing it up is that we do also have, if you're
10 not familiar, Delta has an environmental technology
11 program and we spend a lot of time and effort talking
12 about -- many of our students are here. Raise your
13 hands, half the room, and these guys are either in the

14 CPI program. They go to work for Dow. We have
15 environmental students that go into this business, so
16 I would really like to see and welcome you here. We
17 have plenty of facilities and we can even work out a
18 deal, you know, you might get it cheap, so I would
19 just suggest to look at Delta College.

20 CHUCK NELSON: Some would want to know the
21 quality of your cookies there. I think we're missing
22 cookies.

23 AUDIENCE MEMBER: I can't talk to that.

24 CHUCK NELSON: Any other questions or
25 comments?

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1 AUDIENCE MEMBER: Let's keep flogging that
2 horse about the re-negotiations. It brings up a lot
3 of questions and a lot of negativity in my mind as far
4 as what needs to be re-negotiated. How much is going
5 to be on the table? You know, are we talking about
6 re-negotiating everything from square one, line one,
7 dot one? I mean, I here you mention that the cleanup
8 standard is open for negotiation. And I'd like to
9 know who's pushing for this negotiation or
10 re-negotiation? Is it from the Governor's office or
11 is it actually from EPA or DEQ? You know, I just --
12 it kind of boggles my mind, if things are working so
13 well, why all of a sudden everything has to be thrown
14 out the window and then re-negotiated to spend more
15 time in meetings.

16 And in your comments, you say, well, there's
17 going to be a meeting before and then you guys are
18 going to go into your negotiations and then there's
19 going to be a presentation after. It really doesn't
20 sound like there's going to be a heck of a lot of
21 transparency or communication from us the people that
22 have to live in what you guys do. You know, that
23 really bothers me. It makes me really suspicious on
24 what's going on. The whole idea of the framework just
25 brings to mind of being told, well, yeah, it's being

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1 negotiated and getting a pat on the head by so many
2 people and sent off to my bedroom saying that, oh,
3 relax, it's the experts and they're going to come up
4 with this wonderful framework that's going to handle
5 everything. There was also at that point a promise of
6 public participation and public comment, and as I
7 remember, it was kind of thrown out on the doorstep
8 and it was like that's it. There wasn't really that
9 much room for much comment, and, yeah, there was much
10 gnashing of the teeth.

11 CHUCK NELSON: Do you want to let him
12 respond?

13 AUDIENCE MEMBER: Well, I just want one last
14 quick comment. Over the weekend, I was listening to
15 PBS and there was an American-Indian woman, I can't
16 remember her name, that wrote a book and she made a
17 comment, she said that the future isn't given to us by

18 our parents; it's on loan to us from our children, and
19 I think somebody probably needs to put that on a
20 plaque and put it in the meeting when you guys are
21 behind closed doors meeting on all this to
22 re-negotiate everything. Thank you.

23 FRANK RUSWICK: Let me start with your
24 ending comment and let me assure you that we take
25 quite seriously our responsibility not only to current

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1 residents of the area but the future generations. The
2 DEQ's mission is to protect public health and the
3 environment and we think it's very important that we
4 do that in a way that accounts for the potential of
5 this great State of Michigan. So I want to let you
6 know that that legacy is in the forefront of our
7 approach to this problem. Now in terms of why do we
8 think that a new approach is necessary at this point
9 in time, we have in the comment period focused on
10 positively the amount of work that's been done on the
11 Tittabawassee River and negatively the fact that we
12 haven't been able to collect what is in the view of
13 some people sufficient information on the Saginaw
14 River and Saginaw Bay and that's the crux of the
15 problem.

16 We have a pretty good idea of the work that needs
17 to be done on the Tittabawassee River but we have a
18 pretty fundamental disagreement between the Agencies
19 on the one hand and Dow on the other what is to move

20 forward, what needs to be moved forward in terms of
21 the nature of the investigation and the nature of the
22 work on the Saginaw River and Saginaw Bay, and quite
23 frankly, we think it makes sense rather than to fight
24 that out in the abstract to get some work done in the
25 places that we agree we're ready to do work.

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1 Now in terms of public involvement and what's
2 going to be open for negotiation, the plan is
3 precisely to involve the public in the opening stages
4 of the negotiations so that you see what's on the
5 table, you see the structure of the discussion that's
6 going to occur. You can't be involved in the
7 discussions on an ongoing basis. It's just not
8 physically or practically possible, but if we can
9 reach an agreement with Dow, it will be a tentative
10 agreement, and both the Regional Administration and
11 the DEQ Director have said that they will not enter
12 into an agreement, they will not sign an agreement,
13 they will not finalize an agreement until that draft
14 agreement is also subject to public review and
15 comment. So there will be an opportunity for the
16 public to see and comment on the negotiations going in
17 to make sure that the right issues are on the table
18 from your perspective and then to see what comes out
19 and to let us know how you think we did.

20 Now quite frankly, I think that's a pretty good
21 scale of public involvement. This is a highly complex

22 situation. It involves a lot of parties, a lot of
23 interests, some scientific uncertainties, some legal
24 uncertainties. We're going to do our best to work
25 those things out and we're going to do our best to

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1 involve you and what I'm trying to describe to you is
2 a process that we think is the best way of doing that.

3 CHUCK NELSON: Any further comments or
4 questions?

5 AUDIENCE MEMBER: I would just like to know
6 why you can't do both at the same time, continue work
7 and cleanup on the Tittabawassee while negotiating the
8 Saginaw River? Why does one have to stop for the
9 other?

10 AL TAYLOR: I think that's exactly what
11 we're proposing to do because we have some significant
12 issues adjacent to the Dow plant site up at the top of
13 the system that need to be addressed and the proposal
14 would address those, start cleaning up from top to
15 bottom, while this process is going on, so that
16 there's not that -- there's no reason to lose a field
17 season while we're waiting to do further negotiations
18 on that.

19 I just want to make another comment kind of to
20 support something that Ralph said earlier. One of the
21 benefits that, you know, kind of the staff level of
22 people see for this process is that, at least at the
23 State level and the RCRA program at the State level,

24 we're not really resourced to do the very large scale
25 remediation projects that the remediation is going to

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1 be. We were tasked by the remedial investigation
2 portion of this. By partnering with EPA's Superfund
3 program in this, that dramatically expands the ability
4 of the Agency to provide critical oversight to this
5 project.

6 EPA, for example, on Riverside Drive, Mr. Kimble
7 here was able to have through the Superfund process a
8 contractor on-site, you know, all the time during that
9 work. Expand that to the scale of the Tittabawassee
10 River, we need that kind of resourcing to provide
11 adequate oversight of this, and a good way to do that
12 is to work cooperatively with State, Federal, and
13 environmental agencies, working cooperatively together
14 to get a very large project done, and we think that
15 this methodology is a good way as long as it doesn't
16 provide an unnecessary delay in the process and no one
17 on this side wants to see that either but we do think
18 pragmatically it's a good way for us to move forward.

19 CHUCK NELSON: Other questions or comments?

20 AUDIENCE MEMBER: Greg Cochran, I wonder if
21 you could answer this question and help the audience,
22 explain what Dow's differences are from your
23 perspective with DEQ on the Saginaw River
24 specifically?

25 GREG COCHRAN: Well, first of all, my name

1 is Greg Cochran. I'm with Dow. I'm not sure I
2 understand the question.

3 AUDIENCE MEMBER: Frank said that you guys
4 had fundamental disagreements.

5 GREG COCHRAN: Yeah, I know. I wrote that
6 down, ask Frank after the meeting, so I have the same
7 question. We turned in a workplan to investigate the
8 Saginaw River last year. During that time frame, we
9 Dow made a decision and we notified the Agencies that
10 we're going to go out and conduct investigations last
11 year while they were reviewing this workplan. You
12 call that at risk. We call it -- I mean, we did it in
13 advance of approval. We notified the Agencies. They
14 said go ahead. There's a lot of information we have
15 on the Saginaw River and Saginaw Bay. The Agencies
16 themselves, MDEQ, have gathered -- you heard Al
17 talking about freighter chasing. They have their own
18 data on the Saginaw River and Saginaw Bay. We believe
19 there's a lot of information already on the Saginaw
20 River and Saginaw Bay to inform what we need to do
21 going forward. In fact, the workplan that we turned
22 in last year that has been bantered back and forth was
23 looking at how do you fill in the gaps from what we
24 already have to what we think you need to know. So we
25 have not been hesitant to approach the Saginaw River

1 and/or the Saginaw Bay at all, and the workplan, if
2 you download it and look at it, you'll understand
3 that. So again I'm going to talk to Frank after the
4 meeting to understand what's the big disconnect.

5 AUDIENCE MEMBER: Okay. And just so you
6 know, Greg, our concern, and you already may know
7 this, but history has shown and demonstrated that Dow
8 has ~~number one~~ in never wanted the Saginaw River and Bay in their
9 operating license. I mean, there was the consent
10 order in 2001 and Dow tried to get it out. You've
11 gone to the Michigan Economic Development Corporation
12 in 2003 and tried to do it. You tried to negotiate it
13 away in the framework, and so here we stand today, you
14 know, again with this contention over the Saginaw
15 River, and you know, I'd like some reassurance from
16 Dow that this isn't what you folks are trying to do
17 again, Greg, is to get your obligations on the Saginaw
18 River and Bay out of your license and away from, you
19 know, your pocketbook.

20 GREG COCHRAN: Sure. Let me answer that by
21 answering it this way. We've already heard an
22 anecdotal story about upriver to Dow on the Pine
23 River, a very well-known site, Velsicol site, lots of
24 contamination. We already know through our current
25 condition's report that we submitted last year on the

1 Saginaw River that historically -- and many folks over
2 the course of several quarters have gotten up and

3 mentioned other contributions to the Saginaw River,
4 and by the way, the Shiawassee drains into the
5 Saginaw, the Flint and the Cass River drain into the
6 Shiawassee as well. There's a lot of other sources of
7 particulates and issues out there.

8 AUDIENCE MEMBER: But you guys --

9 GREG COCHRAN: Let me finish. The only
10 situation that we've been adamant about is
11 contaminants that are from the Dow Chemical Company
12 complex and where those come to reside. That's what
13 our license says. That's what it says. If there are
14 contaminants that are out there that are not from the
15 Dow Chemical Company in these river systems, we do not
16 want to take accountability and/or have to be forced
17 to clean up those materials and that's been the
18 disconnect.

19 AUDIENCE MEMBER: Then I think it would be
20 advantageous then, wouldn't you, Greg, to be really
21 persistent in sampling and testing to see what else is
22 out there that perhaps doesn't belong to the Dow
23 Chemical Company?

24 GREG COCHRAN: We've done that.

25 AUDIENCE MEMBER: You've done that?

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1 GREG COCHRAN: We've been doing that, yes.

2 AUDIENCE MEMBER: Okay. So why is there
3 this -- the DEQ's position that there hasn't been
4 enough sampling on the Saginaw River?

5 GREG COCHRAN: Again, note to self, we're
6 going to talk about that after the fact.

7 AUDIENCE MEMBER: Okay. And then I would
8 hope that at the next meeting you folks would explain
9 that to the public. Thank you.

10 CHUCK NELSON: Dr. Garabrant, you got a
11 comment?

12 DR. DAVID GARABRANT: I do, University of
13 Michigan. First, I want to express my agreement with
14 Michelle on the issue of transparency. Transparency
15 is critically important. Transparency really has to
16 work from both sides. I had hoped that I would be
17 allowed to talk tonight about the results of the
18 research we've been doing and I was not invited to
19 talk because the agenda was full. Now we finished the
20 scheduled agenda in about an hour.

21 I think that it is critically important that the
22 issues that we are uncovering, that we are making
23 clear, the data we're providing be allowed to enter
24 into these discussions. We heard a moment ago from
25 the EPA's attorney there are scientific uncertainties.

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1 Well, the work we've been doing has gone a long way
2 towards settling some of those scientific
3 uncertainties. We met today with my Scientific
4 Advisory Board. I had absolutely marvelous attendance
5 from DEQ, DCH, ATSDR. I didn't see the EPA Region 5
6 here sadly or at our meeting in Ann Arbor. We are

7 meeting tomorrow. EPA Region 5 is planning to attend.

8 I heard from DEQ today that they've hired
9 statistical consultants who are going to give us
10 written critiques of our analyzes with suggestions for
11 further analyzes that should be run. We welcome those
12 comments. In fact, I have said we would be willing to
13 share how we're doing the analyzes with the
14 statistician and sit down and see if those can be
15 improved upon. It's transparency from our side. I'd
16 like to see that there is transparency from all sides
17 to get the work we're doing incorporated into the
18 decision making process. I'd like a commitment that
19 we're going to be invited to speak at the next
20 meeting. I'd address that to MDEQ for a response.

21 CHUCK NELSON: Any response?

22 FRANK RUSWICK: We have committed to using
23 the results of the U of M DES study in the remedial
24 action as is appropriate, and the work you referenced
25 in terms of the expertise we've hired to provide a

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1 statistical analysis of the work that you've done is
2 part of determining how we think it's going to be
3 appropriate, and when we've had an ability to sort
4 that out, an opportunity to sort that out and to share
5 with you our critique, and we welcome the
6 collaboration that you referenced, then we will be
7 willing to have a discussion in a forum like this in
8 terms of our position on it and, you know, what your

9 findings are and how we think it relates to the
10 process, but until we're ready to do that, we don't
11 think it's appropriate in this forum to have a
12 discussion that is basically one side of the issue
13 being presented without us having an opportunity to be
14 able to evaluate how that information fits into the
15 decision making structure. When we are there, then
16 we'll provide that.

17 DR. DAVID GARABRANT: We have been working
18 on this project for five years. We've presented the
19 results of our first set of analyses in August of
20 2006. This is November of 2008.

21 FRANK RUSWICK: I've given you my answer and
22 that's what it is. You can reference how you think it
23 relates to the process. I've given you what our
24 position on this.

25 DR. DAVID GARABRANT: And I welcome it.

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1 Could you lay out for me what it is that the EPA needs
2 to do to determine whether our work is relevant to
3 these issues?

4 FRANK RUSWICK: I can't speak for the EPA
5 and I'm not ready to have a discussion with you at
6 that level of detail in this forum. This is not the
7 appropriate forum to have a technical level discussion
8 about our critique of your study. We can do that with
9 you professionally, and when we've had that, we can
10 share it with this group, but I'm not going to have a

11 debate with you in this forum.

12 DR. DAVID GARABRANT: Could you lay out the
13 process, which is not a scientific debate? What are
14 the steps going to be?

15 FRANK RUSWICK: We are going to work with
16 our statistician on our staff and I don't know what
17 the major discussion we had today. As I understand,
18 there was some initial discussion about opening a
19 dialogue with you. I don't know precisely what that's
20 going to entail.

21 DR. DAVID GARABRANT: Well, let me make it
22 clear. We have offered to do whatever analyses your
23 statistician suggests. We have offered to sit down
24 with your statistical consultant and to run analyses
25 together. The only thing that I have to protect is

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1 the confidentiality of my original data. Beyond that,
2 it's all open. We welcome the interaction. We
3 welcome the suggestions.

4 FRANK RUSWICK: Thank you.

5 DEB MacKENZIE-TAYLOR: David, I did get to
6 talk to you directly. I did get to talk to both Al
7 and Brenda and we had already suggested that we have
8 that meeting and have those discussions in a previous
9 communication with you and we express that again today
10 and we do appreciate your agreement to look at what
11 our issues are and what further analyses we'd like to
12 see done and we welcome and are looking forward to

13 working with you on those issues and I'm glad that we
14 have this statistical assistance now because that's
15 not something that is my strong point. So that will
16 help us very much.

17 DR. DAVID GARABRANT: We welcome it as well.

18 CHUCK NELSON: Any further comments from
19 anyone else? We have about seven minutes, six
20 minutes. Hearing none, this might be the first one we
21 adjourn early. We don't know when the next meeting
22 is. Watch out for the dates and the place. We think
23 it's SVSU or maybe Delta. I didn't forget. Thank you
24 all for coming. Have a safe drive home.

25 (Meeting concluded.)

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1 STATE OF MICHIGAN)
2)
3 COUNTY OF SAGINAW)

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6 I certify that this transcript, consisting of 95
7 pages, is a complete, true, and correct transcript of
8 the proceedings and testimony taken in this case on
9 November 6, 2008.

10

11 I also certify that I am not a relative or
12 employee of or an attorney for a party; or a relative
13 or employee of an attorney for a party; or financially
14 interested in the action.

15

16 November 12, 2008

17

Natalie A. Gilbert, CSR-4607, RPR

18

Notary Public, Saginaw County, MI

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My Commission Expires: 8-10-2013

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