ENBRIDGE PIPELINES INC.

INTERVIEW

OF

TIM CHUBB

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INTERVIEW OF TIM CHUBB, TAKEN AT 8:30 A.M.:

MR. JENNER: Good morning. Today is Thursday, July 29th, 2010. My name is Stephen Jenner, and I'm an investigator with the National Transportation Safety Board in Washington, D.C. We are currently in Edmonton, Canada at the Crowne Plaza Hotel. We are here in regards to a pipeline spill that occurred in Marshall, Michigan on July 26, 2010.

I'd like to first go around the room starting on my left to have everyone introduce themselves. So if I would please state your name and the company that you're with.

MR. GULSTAD: Rick Gulstad. I'm an engineer with PHMSA, Pipeline and Hazardous Materials Safety Administration. [redacted]

[redacted]

MR. TOLLEFSON: Tyler Tollefson, senior legal counsel, Enbridge Pipelines, Edmonton office.

MR. GOESON: I'm Curt Goeson. I'm control centre supervisor with Enbridge Pipelines.

MR. CHUBB: Tim Chubb, control centre operator with Enbridge Pipelines.

MR. JENNER: And, Karen?

MS. BUTLER: Karen Butler with PHMSA [redacted] [redacted]he regional project manager.

MR. JENNER: Okay. Thank you.

We're going to start off talking today with Tim Chubb.

QUESTIONS BY MR. JENNER:

Q MR. JENNER: Tim, just could you spell your name for the record, please.

A It's Chubb, C-H-U-B-B.

Q All right. And you mentioned your title. Can you just repeat that?

A Okay, control centre operator.

Q Yesterday we heard people calling themselves operators. It's same --

A Same, yes.

Q -- same function?

A Yes.

Q Great. I'm just going to ask you a little bit about your background and when you started and how

you got up to your current position. So can you just start us off when you hired on at Enbridge?

A I'd have to do the -- do the math. It was in the fall. This fall it'll be four years, so I guess the fall of 2006 is when I started.

Q In what capacity?

A Operator 1 training, started out training.

Q Could you just briefly walk us through your training experience.

A Training, I think I took about six months to train.

You're set up with a senior operator just to learn about the pipelines, and you go through your training until you're qualified to operate by yourself. I don't know what else you need to know on that.

Q Did that go smoothly for you?

A It took me a little bit longer than anticipated, but, it was -- yeah, it went smoothly.

Q Okay. And when did you begin -- when were you qualified?

A I don't know the exact date. It would have been the summer of '07 sometime. I don't know the date.

Q That's fine. All right, and have you worked various consoles since then?

A For our grouping, there are two separate consoles that we operate, and you just -- we switch back and forth between the two consoles.

Q And what -- I know they have numbers, 6 As and Bs and other numbers. Can you tell me which you have operated?

A Okay. The two consoles, the one console is line 4 and 14. The second console is line 3, 6A, 6B, line 17, and the Stockbridge tank farm.

Q In the process of becoming familiar with the different line, what is that process? How long does it take, and how do you -- how do you become familiar with it?

A When I first started training, we would alternate between the two lines, and then part way through my training, we decided to just concentrate and line 4 and 14. So first I was qualified on 4 and 14 after I'd been there for a while -- and, again, I'm not sure on the time line. Then we started cross training on lines 3, 6, 6, and 17.

Q Roughly how long does it take to become qualified on the new line?

A On the new line, not as long as the initial training because you are now familiar with pipelines and how they react, so it's a lot quicker to cross train on the second set of lines than it is on the initial -- the initial training.

Q So you've been doing this for about four years now?

A In the fall, it will be four years.

Q How comfortable are you on day-to-day operations?

A I'm -- I am -- I'm comfortable with it, yeah.

Q Have you ever had to respond to any type of incident, emergency situation, abnormal situation?

A Abnormal situations, yes. We receive calls from the field that there's an odour call or some other call where it requires us to shut down the lines that operate on that right away that the call came from.

Q So you've had to shut down lines in response to problems on the line?

A Yes.
Q Did that go according to training and according to procedures? Did things go well --
A Yeah.
Q -- your response?
A Yeah. Yeah, they went well.
Q Okay, what I'd like to focus on now is just a little more about your shift that began on Sunday.
A Okay.
Q And if you could just walk us through when you came on shift, and there's typically a transition period, a hand-over, and if I can just talk us through that.
A Yeah, I -- I would have come in from my shift, and we would have had our shift change. And the lines -- all my lines were running except for 6B. It had been shut down on the previous shift. So I

had maneuvers coming up, so I had planned and prepared to -- for my maneuvers that were going to happen.

Q Sorry to interrupt. Just what time did you come on your shift?

A 10 after 6.

Q And that's local time?

A Local time, yes.

Q Very good. I'm sorry. Okay, so line -- all lines running except 6B?

A Yes. And I had some maneuvers coming up on some of the lines that were running, and 6B was not scheduled to start up until 0100, but that's MST. That's pipeline time. So I had maneuvers on my lines, so the shift -- the shift was going as normal. And, yeah, it was a normal shift.

Q Okay. So these type of maneuvers for the other lines, are these deliveries?

A I don't remember the specific maneuvers that I had to do, but I know I did have deliveries on line 6A. I had a delivery injection running on line 3. And line 17, I believe, the last injection maneuver had been completed just before I got on shift.

Q Okay. So line 6B is down you learned. And who did you talk to to --

A Dave -- Dave Scott and I did the -- the shift exchange.

Q Okay. Can you share the information particularly about line 6B? Did he tell you anything about that?

A For 6B, he -- they had -- originally the line had been scheduled to run for longer than -- they had shut it down -- I'm not sure exactly what time. Somewhere around 1500, 1530 MST. It was scheduled to have run a little bit longer than that, but because the Stockbridge delivery had ended, they decided to shut down the line on -- when the

Stockbridge delivery ended. Originally it had been scheduled to go even through Stockbridge and then be shut down later.

MR. GOESON: You might want to explain "even" --

A Okay, sorry, yes. I'm just used to these. We -- we had a delivery into Stockbridge, so we were delivering into Stockbridge, and when that delivery ends, the line was supposed to go even or it can go past Stockbridge down into Marysville. We were going to start a Marysville -- a Marysville delivery.

I had shut down the line the day before on my shift before. I had to start a Stockbridge delivery, and we were currently delivering into Sarnia. So on the shutdown, it just happened that it worked out that as I turned into Stockbridge,

the Sarnia delivery had ended. So the next time they were going to go even through Stockbridge, we were going to turn directly into Marysville.

Does that all -- I just -- I don't know what you know for terminology. Is that clear or --

Q Based on what I've previously heard, I think I'm okay.

A Okay.

Q Bottom line for you is it's going to stay shut down longer than they initially anticipated or --

A When I had left for my shift, it was still -- the Stockbridge delivery was supposed to end, and they were going to continue to start the Marysville delivery, and that had got switched by the time I was in for my next shift.

Q Okay. And you're talking about the previous day?

A My previous shift.

Q Your prev -- you're right.

A Yeah.

Q So this is sort of carrying over from your previous shift, and now you're saying --

A It had changed since I had been there last, yes.

Q Okay. The things that Dave told you about the status of this, did that make sense to you?

A Yes.

Q So it was going to remain shut down and scheduled to be restarted at 1 a.m.?

A Instead of 2 o'clock, yes.

Q Okay. So you're tending to other lines and doing maneuvers there?

A Yes.

Q Anything else of interest with the other lines? Did things go normal?

A Yeah, I was -- yeah, I was having -- I was having a good shift up until the 6B startup.

Q Let's talk about the 6B startup. If you can walk us through that. What's the process? Who do you

talk to?

A Okay, for the 6B startup, I had been in contact with my Sarnia operator just to let him know that we were planning on starting up at 1 o'clock, and I had also been in contact with my Griffith operator to let him know the same.

Q Okay.

A We -- I talked to the -- to the two guys that I have to talk to, and we -- in preparation, we had opened valves to be ready to start pumping.

Q Do you open all the valves, or did they open some valves?

A The Sarnia operator, he has to open up the Marysville valves. I have to open up my sectionalizing valves, and the Griffith operator, he has to open up his injection valves and be ready to give me boosters for the line, booster pumps out

of Griffith.

MR. GOESON: So just add there, Stephen, when he says Sarnia and Griffith, that's not local. That's not the local guys. That's still from the control centre, just a different console. Because they're still remote controlled. I just didn't want you to get confused between local controlled and remote control. They're still remote controlled facilities, just another part of the control centre.

Q MR. JENNER: How do you talk to these other guys?

A During the shift and well ahead of the startup, I had actually walked across the room to go talk to the Sarnia operator, but as 1 o'clock was approaching, I called him on the phone and asked him to please open up in preparation for the startup.

Q Okay. So just to reflect, Sarnia opens the Marysville valves?

A Yes.

Q And you open the --

A The sectionalizing valves or routine sectionalizing valves. And those are just the valves that we normally close on a shutdown. We don't close every single valve on the line. We just have our routine sectionalizing valves that we close under normal

operations.

Q And then who's opening the injection valves?

A The Griffith operator.

Q Great. Thank you.

A Okay, so I had started to open up my sectionalizing valves, and one of my -- my -- sorry, I have to get this clear. I opened up my routine sectionalizing valves and had noticed that one of my sectionalizing valves was comm. fail. I'll let you -- I'll give you a second.

Q One of your sectionalizing valves was --
A Comm. fail, the communications had failed to that valve.
Q Comm.?
A Comm. fail. C-O-M-M fail.
Q And is that an alarm?
A There is an alarm for it, but when you look at your display, it's a valve that has a gray box around it. So when you look further into that valve, you can tell that the alarm comes up as a comm. failed valve.
Q Okay. What is the location of that --
A That one is downstream of Marysville -- or, no, downstream of Marshall. I believe it was 632, but without looking at the display, I'm -- I couldn't say for sure.
Q Is 632 a valve number?

A Mile post number.

Q Mile post?

A Yes.

Q 632. And so tell me about the comm. fail. What does that mean?

A It just means that we don't have communication with the valve, so we don't know the exact status on the valve. It was showing open, but with the comm. fail, we cannot be assured of -- of the actual position of the valve.

Q Okay. When it's working properly, is it a colour change?
A It's a green valve. It means that the valve is open.
Q Okay.
A And this was a green valve with a gray box.
Q And you noticed that pretty quickly?
A Yes. Yeah.
Q Okay.
A And there's also a blue line that comes across on our line display that's associated with the same...
Q And I'm sorry. You mentioned an alarm. Is there an actual alarm that goes on your screen?
A Yes, there is, but it -- the valve had been comm. out from before I got there, so the alarm had already been cleared. But by looking at the display, I knew that the -- to -- that I had to

check into it.

Q Okay. So right now, it doesn't necessarily mean anything is wrong; you were just not getting information either way?

A Yes. So with that valve, I called the shift lead to let him know that I was starting up with a comm. failed valve.

Q Okay.

A And with the comm. failed valve, we put the two stations upstream of the comm. failed valve into

comm. out limits.

Q And you'll describe that to me.

A Yeah. So with the comm. out limits, those are the safe pressures as determined by engineering that we can get up to, and in case that valve is closed, that we don't over pressure that section of line.

Q Okay, thank you. Okay, so starting up with a comm. fail valve is practice, but other measures have to be taken?

A Yes. Yeah, there's extra measures that we have to take into consideration when we do that, yes.

Q Okay. And this is -- okay, so this is now a comm. out limits?

A Comm. out limits, yes. We have to enable our comm. out limits, and that restricts us from opening up our discharge value -- or discharge set points above our safe discharge limits.

Q And what is the process for doing this?

A You phone the shift lead. You talk about the valve and whether or not the valve had failed, if you'd seen the valve fail or if it was already failed.

With it, the shift lead will watch our startup until we get pressures through that area, and then we're able to disarm the comm. out limits and continue normal operation.

Q So you're in communications with a shift lead?

A Yes.

Q What's the name of this person?
A I believe it was Darin that I had called on the comm. out valve.
Q Now, does he go over to your console or --
A No. He will watch the startup. They have the -- our displays up front where the shift leads are, and typically they just watch from there. They ask us -- they ask us a few questions, and if they're okay with it, we will continue with the startup.
Q And just in terms of time frame, how -- how long does it take for you to call him and make this decision and then start things up?
A In this case, it was -- it was very quick and simple. I -- I had told him that it was comm. out. I had sent a -- my last command I had sent was an open command and that the valve did show open, but it was in comm. out limits. So I had enabled my

comm. out limits, and we were good to go with that -- with that -- that aspect of it.

Q So a matter of minutes is --

A Oh, not even.

Q Oh, I see.

A Less -- less than, yeah.

Q Okay, I'll let you continue.

A And then I enabled that. And looking at my line, the Niles station had already been isolated in preparation for a pig passage. We had two pigs in

the line that were downstream of La Porte station and were headed to Niles station.

So the station is isolated so that the pigs will bypass the station and don't get directed into the station. So with the Niles station being isolated, I knew I was not able to start a unit at Niles during -- during my startup.

Q Okay.

A And that -- that's abnormal for line 6B typically on the startup. We'll start up out of Griffith with a unit. We'll skip the La Porte station, and our next station will be the Niles station. So this was -- I knew right away that this was not going to be a normal -- a normal line 6B startup.

Q Okay. So all right.

A What else did I do? So, yeah, I'd warned the shift leads about the comm. out valve. I knew we had

flow into Marysville, and my Griffith operator was ready. So then I was ready to start up the line.

So for the startup, I asked the Griffith operator to start my booster pumps at Griffith. Once I knew those booster pumps were on, I started a single unit at Griffith.

Q All right.

A As the pressure came into La Porte, I started a second unit at La Porte -- or I guess I shouldn't word it that way. I started a unit at La Porte.

It was the second unit I started.
Q Okay.
A And then not being able to start up a unit at Niles, I had the Niles station schematic up to watch the pressure changes come through Niles station.
Q I'm sorry. Can you repeat that. You can't start at Niles, so --
A Okay, yeah, I -- I don't have a unit available to start at Niles, so I had the station schematic up on one of the side screens just so I could watch the pressure as it came through Niles station.
Q All right.
A And then I'm not sure on the exact sequence. I believe I went back up and started a second unit at Griffith because without the Niles station, I needed -- I knew I needed more horsepower upstream

to -- to bring the pressure through Niles station.

Q All right.

A So as I watched the pressures build through Niles, I was then able to start a small -- the small unit at Minden station.

Okay, so I -- I had enough pressure at Min -- well, I had very little pressure at Minden station. I actually started the unit there early. The reason I did that was to avoid excessive pressures in the Niles station since I wasn't able to run a

unit there.

So I had my units on, and we'd been running, and we were getting close to ten minutes. We have a ten-minute rule for starting pumps to see pressures downstream.

So as I was approaching my ten-minute rule, I had called to the shift leads, and this time I'd talked to Aaron. Then I told him that we were approaching our ten-minute rule and that I hadn't seen a significant pressure change downstream.

Q So just to recapture this, the ten-minute rule means within ten minutes, your pressures should be normal?

A Yes, but with the ten-minute rule, there's also extended time on the ten-minute rule that includes drain-up from shutdowns, and we also had some drain-up into Marysville from when we had opened up

the valves.

So Aaron came over, and he was watching this with me. And Aaron and my shift mate, they started calculating my extra allowable time for the -- for the drain-up.

Q How are they doing these calculations?

A They went back and looked at the -- the track -- or our track that we run every two hours, our CMT track, and they found (ph) up the drain-up from the shutdown from Stockbridge into Sarnia as well as

the drain-up on the shutdown into Stockbridge and also the amount of oil that had drained up into Marysville when we opened the valves in preparation for the startup. And they had come up with 22 minutes. I'm pretty sure it was 22 minutes. That number sticks out.

Q About how long did it take for them to do these calculations?

A Couple minutes.

Q Okay.

A So with that new information, we -- we decided to go an extra 22 minutes for our startup. So as we're approaching the end of the 22 minutes, the decision was made to shut down the line.

Q Whose decision was that?

A Okay, how do I -- I was -- of course, we were approaching the end of the time, so I said, Aaron,

we're getting to our time. We're going to shut down. And he said, Yeah, shut down.

Q All right.

A So on our shutdown, we closed off into Marysville. We had closed our routine sectionalizing valves and knocked off our boosters at Griffith and -- and closed up.

Q Did that go as normal, the shutdown process?

A As norm -- yeah, yeah, it was -- it was -- it was a normal shutdown, yes.

Q Okay. And how long is this shutdown process?
A Probably just over a minute. It -- fairly short.
Q And the feedback you were getting from the system, no alarms, alerts?
A We -- we did have MBS alarms. I didn't mention this earlier. For the startup, we did have MBS alarms, so I called our MBS guy, and he was already looking into the -- into the -- into the MBS alarms.
Q All right. Just talk about that. What were the MBS alarms related to?
A They relate to a section of a pipeline where the model picks up an imbalance, and they're divided into 5-minute, 20-minute, and 2-hour alarms. And I'm not -- not an MBS guy, but it just refers to the amount -- the amount of the imbalances depending on which alarm you get.

Q So you talked to an analyst about it?

A Yes. Yeah.

Q Do you remember his name?

A Jim. Jim was on that night.

Q Okay. And what was your conversation about the MBS alarm?

A It was very short because I was trying to start up my line. I just phoned him and told him that I was receiving MBS alarms, and he was going to look into it -- or he was looking into it.

Q Did he get back to you?
A Yeah, he had actually -- he had talked to the shift leads, and he had come over to my console to take a look as well to see -- to see what was happening. And because he had questions for me because Niles station was bypassed, so that -- I don't know exactly how it affects his -- his model, but he -- that's -- he came over to see what was abnormal or what was different on my line than what he expected or what his model was picking up so that he could see what was happening on the line and check with his -- cross-check with his model.
Q So when he came to your console, what was your conversation, and what were his actions?
A I really didn't talk to him a whole bunch. He just -- he looked at my model, and he -- he said, "Oh, you didn't tell me that Niles was isolated."

I'm like, "Yeah, we're expecting pigs." I don't remember exactly, but that was one of the things. And I -- he looked at my -- looked at my model.

Q All right. And did he -- did he give you a --

A He gave me feedback that things looked fine.

Q And when did this occur in the process? This is during the startup?

A During the startup, yeah, we started receiving alarms.

Q Can you just -- more specifically in the first

minute? In the first 10-minute block? In the 22-minute block?

A I don't think they were initially. Probably five minutes in is when they started. I...

Q Approximately.

A Yeah.

Q Okay. But during the first ten minute --

A Yes. Yeah.

Q Okay. So we'll go back to the shutting down the line.

A Okay.

Q So you did the 22. Your -- a minute later, your line is shutting down?

A Yeah. Yeah, we're shutting -- yeah, we're -- as soon as we got up to our time, we started shutting down, but you can't just knock off all your pumps. I knocked off a pump and reduced pressures, and

then I was -- I was able to. We shut down -- we shut down pumps. But I only had -- I only had four pumps on, so a minute would probably even be long for that one. I'm thinking -- yeah, it was definitely under a minute, but I don't know how long it would have taken to even knock pumps off and then to get valves closed and close up.

Q Okay. So you guys have a situation where the pressures weren't where you thought they should be. You shut down the line?

A Yes.
Q And so now what happens?
A I -- I was -- I had other things to do with my line, so basically the shift leads took over, and they -- then they -- they did talk to me a bit, and they would have been talking to MBS just to see where the -- if there was a problem or where the issue was just to see what -- what was happening with the line.
Q Okay. And they're working this for a period of time?
A Yeah, it was -- I don't remember exactly what time we got shut down, but it was -- I think it was 4:30ish before we tried to start up again. So it would have been well over two hours that they -- they were analyzing data and pressures to see what was going on.

Q Was this done at your console or --

A No, this was up at the shift leads, yeah.

Q So two hours, it's quite a good portion of time?

A It was -- yeah, it was over two. I -- I can't get any closer than that right now.

Q No, no, I'm just saying that they're away for a pretty good --

A Yes.

Q -- pretty good block of time?

A Yes.

Q And you're attending to other lines?
A Yeah, I had other lines and other maneuvers to -- to -- to attend, yes.
Q Overall, besides 6B, how -- did you have a busy workload? A normal workload? Slow?
A Probably a normal -- a normal workload until shortly after 3 o'clock, probably 3:30 MST. We have a whole bunch of work that's going on on 6B. So about -- I want to say about 3:30 the guys from the field would have started calling in for their work for the day on the line. So then it gets -- it gets really busy answering the phones and attending to your lines.
Q Approximately what time was the line shut down?
A I want to say 1:45, but I really -- I don't know.
Q Approximate time is just fine.
A Okay.

Q On we're still on MST?

A Yes. Yes.

Q So the 3:30 period is during that two-hour block of time when they're analyzing?

A They're analyzing things, yes.

Q You're attending to your normal operation?

A Yes.

Q And there was a -- did they report back to you with their conclusions?

A Yeah.

Q And when was that that they talked to you again?
A I don't know for sure. Sometime -- I'm going to go with sometime after 4 o'clock probably, 4 or 4:15. I'm not sure because we -- I -- I'm not even sure when we started up again. I think it was about 4:30, but -- so it would have been 15 minutes to half an hour before we had decided to restart the line.
Q Did they tell what they thought the problem was?
A Because we had -- we weren't able to by -- or we weren't able to use Niles station because of the bypass, that we needed more discharge pressure out of Minden just to break the frictional loss, the line loss into Marshall to even get -- to get enough pressure into Marshall to see a -- to see a significant pressure change.
Q Okay. I'm just going to ask you to -- the

rationale was because Niles station was down, and you had to bypass it?

A Yeah.

Q Then --

A That we needed -- I -- I'm not sure on this. I think the pressure was 320 pounds discharge out of Minden before we'd even see pressure into Marshall because of the line friction loss.

Q So it's sort of revolving around the Niles station being down that it -- that has consequences for

pressures on other points of your line?
A Yes. It's definitely a contributing factor, yes.
Q Right. You have to adjust for that?
A Yes.
Q And that more or less was their conclusion that we have to account for Niles station being down?
A That we have -- yeah, we had to be able to get more discharge pressure out of Minden station. So either -- yeah, if you had Niles, it would definitely help or to get more horsepower upstream to bring the pressures into Minden to get the pressures to Marshall to overcome the line friction loss.
Q And that's pretty much what they told you, and did that seem reasonable to you?
A Yes. Yeah.
Q Okay.

A Because like I'd stated earlier, normally we skip La Porte, and you go to Niles to start up that line just to transfer your pressures through and for a nice startup, and I didn't have Niles available to me on this startup.

Q Okay. Okay. So this is now after 4 o'clock, and they're just -- so you're -- are you being told to, look, we're going to restart the line?

A Yeah, we're going to give 'er another try, yeah.

Q All right. And if you could walk me through that,

please.

A It would be the same process as we did before. We still -- we had the Sarnia operator to open up. I opened up my routine sectionalizing valves and informed the Griffith operator that we're going to try again.

Q Okay. All right.

A So it would have been another startup with -- the Griffith unit and then La Porte unit, bring on another Griffith unit. We waited longer this time to start -- start the Minden unit because we -- the first time, initially, I was worried about the pressures into Niles, but after I tried to start it up the first time, I realized that that wasn't as big of a concern, so we waited a lot longer to get the Minden unit on.

And this time -- I can't remember if we

started the small one again first or if we just went to the big one, but we got the line up and running again up to Minden, and out of Minden, we were only able to get -- I'm guessing it was about 280 pounds, and we were still looking for that 320 pounds of discharge out of Minden.

So we -- we opened up some more set points to try to get the pressure up to 320 discharge at Minden, and we couldn't get it, so we tried to start another unit at La Porte, and that unit was

unavailable to us.

So, again, we hit our ten minutes at Minden. We didn't have enough pressure, and we shut down, and we were waiting to get guys in the field to check on unit statuses to see what was going to happen. And by then, it's already -- we had shut down, and it's very close to the end of my shift, so they're still discussing this. And then my -- my relief showed up for my -- my shift exchange.

Q Okay. I'm sorry to ask you this, but why La Porte was not available?

A There -- we -- at La Porte, we have three bigger units and then a smaller unit. I'm not exactly sure what the horsepower is, but it would be three large units and probably a half head, so the fourth unit would probably be half as big as the first three. And we were trying to get that unit on, but

that unit had equipment problems with it, so we weren't able to use it.

Q You were -- that had equipment problems for some time, not just --

A Yes. It was -- the shift lead asked me if we're able to use it, and I -- I didn't think that we were, but we wanted to -- to see if we could get a start to it to -- to see if it would start, but it never -- it -- there was problems there. It wouldn't start.

Q So this is the smaller unit?
A The small unit at La Porte.
Q But is there an option to use one of the bigger units?
A Not with power -- power limitations that we have at that station. Only allowed to use so much power at that station.
Q I see. So here we are. The ten minutes are approaching, the ten-minute limit. You're not getting the pressure, enough pressure that you need to see?
A Yeah. So then we -- we just shut down. We weren't going to be able to get the pressure that we thought we needed to get into the -- into Marshall.
Q And this -- just clock time is approaching --
A We -- okay, it's just a guess. We started up at about 4:30. We would have got our units on. We

would have had Minden on for about 10 minutes, and then we would have shut down. So it probably took us 15, 20 minutes because it was a lot quicker startup at the top part of the line because there was more pressure in the line for the startup.

Q The 15, 20 minutes, it's after the 4:30?

A Yes.

Q Okay. To shut down, so --

A Yeah, and then we shut down, and that was -- yeah.

Q So 4:45, 4:50?

A Sure, yeah.
Q Okay. So now it's shut down, and I guess according to procedure, things went okay for the shutdown process?
A Yes, for the startup, for the shutdown, yeah. They -- the -- the pumps that we got on, everything was normal.
Q Okay. So what's -- what were the discussions at the shutdown time?
A The shutdown, that we still needed more horsepower upstream to get the Minden discharge up to 320 to break the friction loss into Marshall.
Q Who's now working this problem?
A Again, the shift leads, they came up with that 320-pound discharge that we needed out of Minden using a line-loss calculator. It's a tool that they have to figure this -- these numbers out. And

we were getting personnel in the field out to the stations to -- to see what else could be done.

Q And so you're making these phone calls?

A No.

Q No?

A The -- I was -- I was really busy at that time. I'm not sure who was making all the calls because I was calling the guys in the field. Of course, I had to call them all again before we did this startup, and then after we shut down, call them

again to say, Look, we're shut down. You guys can get back to your work.

Q Now, who are the people in -- not names, but are they affiliated with a particular station?

A Most of the guys that I was calling, they're not with a station. They're out there to do work on the pipeline. The other fellows that were going out to the station, yes, they are associated with -- they -- associated with stations, but I'm not even sure if these were the guys that are associated with that station or if it was the on-call guy that's associated with a region or an area that he takes care of.

Q So after the second shutdown --

A Yes.

Q -- the calls to the field, what are they asking these people to do?

A To go to the station and to look and see -- like, a report, if there was another unit that we could get on, if there was another guy that was going to Marshall to check things out just to see if he could see any problems there. The one fellow was going out to Niles station because he was already expecting the pigs to be through so that he could return the station to us for -- to run -- to pump on the line.

Q Okay. Like, the person going to Marshall, what is

he going to do? Do you know? When he gets there, what is he going to look for?

A I can't remember why he was going, if he was going in preparation for the -- I don't remember why. I don't remember why he was going there. Somebody called him out just to check out because we were having problems or if he was on his way there for another reason. I'm not -- not sure.

Q Okay. So these people are -- some of them were already scheduled to go to these locations?

A Some of them were, yes.

Q And others are just being alerted to do so for this reason?

A Or there are other guys that that's the first thing they do in the morning when they -- their first business is they go to their station, make sure everything looks good from the night before before

they continue on their day. So there's many -- many reasons they'd be out there.

Q Okay. And once they get there, they'll look -- they'll do what they need to do. Do they call back to you guys?

A If they show up at their station in the morning and everything is normal, we usually don't hear from them. If they go out there and there's a problem, they'll let us know, or if we call them out for a problem, they'll report to us to say, no,

everything is fine, or, yes, we have an issue.

Q While you were still on duty, did any of them call back to say --

A The phones were ringing off the hook, and I was answering some; my pod mate was answering some; the shift lead was answering some. It was busy because everybody wanted to know what was happening because the line got shut down again.

Q Oh, I see. Do you know the nature of these -- these --

A Lots of them are just the guys that -- like I had said, they call -- start calling in at 3:30, and they have scheduled work that they're -- they're attempting to do on the pipeline, so we have to be in contact with them. We have to phone them every time we start up or shut down the line just to let them know that there will be transient pressures or

possibility of transient pressures on the line so they can -- depending on the nature of their work, they can get off the line just in case there's an incident that they're -- they're clear from the line.

Q I see. But in terms of the phones, as you said phones ringing of the hook --

A Well, it's --

Q Yeah, I know. Just it was busy?

A It's an expression. It was busy, yeah.

Q Sure, I understand that. But none of them were calling to report an emergency?
A No. No, nobody -- no, I did not receive a call like that.
Q Okay. They're calling for informational purposes?
A Yeah, plus we had the pig trackers out there, so I'm trying to keep in contact with them to let them know when the line is running and when it isn't so they can keep track of the pigs continuing down the line.
Q Okay. So we're now around the 5 o'clock hour local time?
A 5 o'clock MST.
Q 5 o'clock MST so --
A So it'll be getting to 6 o'clock local. That's our -- that's our shift change.
Q So before your shift change --

A Yes.

Q -- is there anything else going on that you're involved in in terms of the shutdown?

A No. We -- we shut down. We closed off basically as normal. The only thing that's not normal is we don't have pressures downstream of Minden.

Q Have you ever -- I know every situation is a little unique --

A Yes.

Q -- but have you ever experienced anything similar

with similar results?

A Not with a leak. I've had other startups where we start up; we have a column sep. We start up; we use our ten-minute rule; and we -- we shut down because the pressures aren't doing what we expect them to do. We've shut down; we've analyzed it; and then we've been given the okay to start up again. And on the second startup, pressures come in, everything fills in, and it's a -- and then it's normal from then on.

Q And in these situations that you're describing, the second time you start up --

A Yeah.

Q -- things work?

A Things work, yeah, just like they're supposed to, yes.

Q So this is the first time for you that you would

start up a second time --

A Second time.

Q -- and things don't work?

A And things didn't work, yes.

Q Okay. Are you hearing conversations between the leads and analysts about what --

A Some of it that took place around my console I did. Anything else that happened up at the front, no, I -- I -- I don't hear it. It's all the way across the room. I -- I don't hear it. I just get what

they -- what they bring back to me.

Q And from what your hearing or understanding the conversations, what is the focus? What are they thinking the problem is?

A Well, we're wondering why we're not getting pressure into Marshall station. But with everything that's coming back, we have -- we have an explanation for why the pressures are not getting there.

Q Was some of the discussion, any of it, about there may be a rupture on the line; there may be a leak?

A That always comes into play when you don't see the pressures, but we -- we were able to rationalize why -- why we weren't seeing the pressure changes.

Q I see. And when you're coming up with these explanations, is everyone on -- agreeing, or were some of you saying, "Well, maybe we should consider

this or consider" -- I mean, I know there's a lot of brainstorming --

A No, they all -- they -- it all -- no, there's many different situations that come up, but we were able to come back to the, no, we're -- we just -- we need a little bit more pressure, and we'll be able to get that column together, and everything will be fine.

Q Okay. Now, if you, on your own, wanted to explore the possibility that there's a release, a leak,

what measures could an operator have taken beyond what was already examined?

A Could have went back and looked at the shutdown pressures and see what happened on the shutdown.

Q What would that have told you?

A It may not have told me anything. It may have shown a drop after the shutdown, or it may have shown steady pressures after the shutdown. So it may have told me everything was fine, or it may have brought up other -- other things for me to look at or consider.

Q I'm throwing hypotheticals right now that -- and I understand that their situation. There's lower pressure, and there's explanations, and that at the time made perfect sense?

A They seemed reasonable, yes.

Q Right. And looking at it from Monday morning

quarterback, if you want to explore the possibility of maybe there's a leak, then I'm just trying to understand the process for taking it in a different direction. What information do we need to examine to see if there's a leak?

And so I'm just trying to get details of what numbers you could look at, you know, compare if that makes sense. You're looking at some numbers, and that justifies everything that's happening, and if you wanted to say, well, maybe there's a leak

going on, what data can be looked at to help take you down that road?

A There are pressure trends that we could look at.

Q Okay. And that's -- walk me through that. Is that something you pull up on your screen?

A Yes.

Q Okay.

A Yeah, you can pull up pressure trends on your screen and take a look back and see what happened or see what the pressures were telling you.

Q And what would you look for in the pressure trends?

A I would look for a sudden drop in pressure.

Q Did anyone throw out the -- and I understand that everything is making sense, you know, what you're doing because it's such a rare instance when there is a problem, so I understand that.

A I did not look at pressures, and I -- I cannot say

if anybody else did or not.

Q Okay. Is the pressure trends part of -- we mentioned the term "leak detection system." Is that part of a leak detection system?

A It's -- I don't know how the MBS works. It might be tied into that. I don't know. But there are separate trends that we can look at.

Q Okay. So what would prompt an operator to look at these pressure trends?

A If you had an incident or -- if you had an incident

to look into it or something that didn't look normal, you -- you might look into these pressures.

Q Is it -- is this -- I mean, again, abnormal situations, leaks are very rare, so it's probably pretty rare that you have to look at these trends. Have you done that in the past?

A Yes, I have.

Q Okay.

A Yeah, we had an incident with a pig, and I went back and trended the pressures to see when -- when the pump went through.

Q So the incident with the pig -- I won't ask for details, but there were pressures that weren't normal? I'm just guessing and --

A The pig never ended up in the trap when they expected it to, so I went back and trended pressures to see when there was a pump, and we

found out that it was hooked on a valve. It got caught up on a valve somewhere else upstream.

Q Okay. And when you look into pressure trends, are you getting raw data numbers, or are you getting a diagram, a schematic?

A There's -- you can look at just raw numbers, or there is pressure trends, a line that deviates either up or down depending what the pressures are doing.

Q Okay, I like looking at pictures, so would it show,

like, a downward --

A Yeah.

Q -- smooth downward trends?

A Well, it depends on the extent of the rise or fall in the pressure depending what the graph would look like because it is over time. It's pressure over time, so depending how quickly and how dramatic it was would depend what the line looked line.

Q Now, all during this time, you hadn't mentioned any alarms coming in.

A There were -- we still had the MBS alarms were coming in and out, but I knew the MBS guy was looking at them. He was involved looking at his end of things the whole time that we were investigating to see what happened.

Q Did these alarms get cleared?

A Some of them would clear and go back, yeah.

Q Okay. Okay, so those were being examined, looked into at the time?

A Yes.

Q And is it the procedure when you get an MBS alarm to contact the analyst?

A The -- the shift lead and the analyst, yes.

Q Okay. So if you can just finish off your shift. You -- it's coming time for the shift change, and what's -- who's coming on board, and what are you guys talking about?

A Greg is coming in, and I'm explaining the maneuvers that are happening on the other lines, what's happening today, and then attention is swung over to line 6B, that we're having problems starting it up.

Q About what time was this discussion are you -- are you handing --

A I'm going to say 10 after 6 local. I don't -- I don't know the exact time.

Q Is the official time about 7 for the shift change and your official shift on record? When --

A No, everybody in the room does shift change at a different time. It usually happens between 6 and 6:30 local. There are guys that come in earlier; there are guys that show up later.

Q Right.

A It's -- it's not standard. It's -- you come in

there; you're there for about 12 hours. Hopefully your partner comes in to relieve you within that 12 hours and...

Q From others we've talked to, it sounds like there's a little play?

A There's a little play, yes, for sure.

Q Okay. And so you got Greg up to date with the status of other lines and this line?

A Yeah.

Q Okay.

A And I told him the line is not running. They're expecting to try to start it, trying to see what we can do with this line, see if we can get it going. And the shift leads were still meeting, so the shift leads would probably come back and tell him what the plan was.

Q Did the shift leads ever come back before the conclusion of your shift?

A They were back and forth since we -- since I called them on the initial startup that we were getting close to our ten minutes, and it doesn't quite look right. They'd been back and forth the whole time.

Q Right. But by the time you handed over the shift, they were still trying to figure out what to do next?

A Plus they were doing their rundown with the new set of shift leads coming in.

Q I see. I see.
A Right? The shift leads have their -- their rundown with the new shift lead as well.
Q So everyone sort of transitions at the same time and hands things over, shift leads and --
A You have about a half an hour where the whole room takes to shift over, yes.
Q Okay. Terrific. Extremely helpful. We appreciate that. Do you want a break? We've got other people --

A I could probably use a bathroom break.

Q Absolutely. We'll take a break, and when you're ready to come back, we'll continue.

A Okay.

MR. JENNER: Thank you.

(BRIEF ADJOURNMENT)

QUESTIONS BY MS. BUTLER:

Q MS. BUTLER: Now that we're officially back on the record, the particular comm. valve outage that you had with your -- I believe that was with a sectionalizing valve; is that correct?

A Yes, it was a sectionalizing valve, yes.

Q So does that comm. error ever clear, or did it stay in process the whole time you were on your shift?

A The whole time it was -- it was comm. the whole -- comm. out the whole time.

Q Okay. Were you experiencing any other comm. errors

on your particular console that come to mind?

A Specifically I can't say, but I do believe that between -- I have four lines there, so I know that there were other lines that definitely had comm. valves that were in and out during my shift.

Q Okay.

A On 6B, I -- I believe the valve down by Leonard had gone comm. in and out during the shift.

Q Okay. Normally when you have a comm. error like that, are there some reasonable explanations for

that, like, based on your experience?
A We do have valves that seem to go comm. out more regularly than other valves, so it is something that we deal with every shift.
Q Okay, when you deal with this every shift, do you guys frequently write those up? Do they put them in your FacMan or whatever it is you call it?
A Yes. Yeah, they're reported in FacMan there.
Q Do you know if this one was reported in FacMan?
A I don't remember.
Q Okay. Would that be something that you would normally do, or would that be something that somebody else on the shift is required to do?
A Typically it would be the operator sitting at the desk.
Q Okay. Have you ever known of anything that was experienced simultaneously across different

consoles? So, for example, have you known where there was, like, comm. outages for you and other consoles in the room were experiencing something similar?

A Yes.

Q Forgive me, but I have to take notes, so I'm not --

A Yeah, see, I just can't see when you're writing. That's -- that's the difference.

Q That's right. That's right. That's exactly right. And the NTSB person that's sitting in front of you

is much smoother than me, so I apologize.

A Well, I can just -- I can watch. I can see when he's busy and when he's not.

Q There you go.

In any event, based on that -- okay, so, yes, there's probably been some communication issues that have hit on some consoles. On this particular day, was there anything that stood out to you on some of the other consoles? Like, you've mentioned that you had to get assistance to close valves in other particular stations from other consoles. Do you have any knowledge of any issues going on with them?

A Not at -- not at the time that I was having them, and with line 6B, it doesn't share a direct right-of-way with another line, so the chances of somebody else having communication problems in the

same area for 6B, very, very rare.

There are other lines -- I know the main lines 1, 2, 3, 4, 13, there are valves that if I lose comm. to that valve, I'm expecting that the other lines lost it as well. But with 6B, doesn't really share a right-of-way, so it's one of those things that would just about never happen.

Q Okay. And this next question is in regards to the previous things that you made, and I'm just trying to clarify because someone was gracious in the room

to clarify a little bit, and I just don't think I caught it all. So this will be a bit of a repeat.

A Okay.

Q We were talking about you'd been in contact with the Sarnia operator and the Griffith operator and that they were scheduled to start up around 1 o'clock a.m. pipeline time, and that the -- they have been -- they were preparing, so they were opening valves to get ready to start -- that Sarnia had opened up the pipeline valve, I think, at Marysville, Sarnia contact. And then someone in the room was gracious enough and said those are remote. They're done from another console, a different operator. What console was that?

A Okay, for the Sarnia -- for the Marysville valve, it's the Sarnia operator, and he's all the way across the room from me.

Q And (INDISCERNIBLE) the console in a number, or do you just call it the Sarnia console?

A It is a numbered console. I don't know what the -- what the -- what the number of the console would be.

Q Okay, and then you --

MR. GOESON: Karen, sorry, it's Curt. We just refer to that grouping of consoles, and they're two as a Sarnia group.

MS. BUTLER: So that's group two. Okay,

thank you so much.

MR. GOESON: Sorry, it's the Sarnia group. It's not group two.

MS. BUTLER: Okay.

MR. GOESON: It's the Sarnia group, and it has two consoles in it.

MS. BUTLER: Okay. All right.

Q MS. BUTLER: And then you mentioned that Griffith had to open some injection pump valve, but I take it that the Griffith injection pump valve, that's actually at the station; is that correct? Is that a field person, or are you also doing that from a console in the room?

A From a console in the room, but he -- his console is adjacent to mine, so I can -- I just look at him and ask him to open up his valves and be ready for when I asked for boosters.

Q Okay. And so is that in the same grouping, then, as your console?

A No.

Q Okay.

A He's the grouping next to my grouping.

Q Which is which group? What's it called?

A My group, I'm group 1, and group 1 exists on the console that I was operating, lines 3, 6A, 6B, 17, and Stockbridge. The other half of group 1 is lines 4 and 14. And we sit back-to-back.

Q Forgive me for not asking that clearly. What I'm after is --

A Yeah.

Q -- what is the group name or number that Griffith injection pump valves are associated with?

A Griffith, Hardisty.

Q Thank you. Okay, and how -- do you know, does that have two consoles also, or is that a --

A Yeah.

Q -- one-console group? Okay.

A Yes, it's two -- the one side is the Griffith side, and then the other side is the Hardisty, Kerrobert side.

Q All right, gotcha. Okay, so on your screens that you look at, is there anything that communicates back to you the positions of those valves that they have to put in the proper position?

A It's not a typical display that I would have up, but, yes, I can grab that information. I can grab that information if I need it, but it's not a typical display that I have up.

Q Okay, so since it's not a typical display that you have up, my next issue is if they issue, say, an open command and the valve, say, in their console has a comm. fail and it doesn't open, do they have to just communicate that back to you, or is there an alarm log that that would trigger in, and you

would see that alarm log?

A The alarms that I typically see will show the valve in travel open, and then it will tell me when the valve is open. I trust him that he -- he's watching his valve go open. Usually right before I start up, I check with him and say, "Are you ready," or, "You're ready to go." And then that's for him to look through his stuff and go with his -- go with his information if he's ready to go or not.

Q Okay, so let me ask this slightly differently. I apologize for not doing it well the first time. And that is when he opens the Griffith valve, and the valve goes into travel, but it doesn't make the state he's requested -- so it doesn't make the open in this example. So it doesn't make the open state, so it's stuck in travel, would you see an

alarm on your console that says Griffith valve "X," whatever the number is, stuck in travel or in travel state or didn't make "B" open sequence, something? Would you see an indicator in your alarm log on that valve?

A I can't say for sure, but my -- my answer would be no, I would not know that.

Q Okay.

A That'd be up to him to -- to -- that would come up on his side.

Q Okay. All right. Thank you for that.

And I assume that that would be similar to the valves at Marysville, right, or is Marysville somehow different from Griffith?

A It should be the same. Those valves are included within the terminal, so they're not valves that I typically get -- that I will receive alarms for or that I typically see. If I want to see those valves, I have to look much deeper than is normal.

Q Okay. All right.

MR. GOESON: So just -- if it's okay -- it's Curt here, Karen. I'll just add a couple two cents here. Again, just for clarity, because I think I know what you're asking, the environments that the individuals operate, we refer to them as "environments." So there's an environment associated, for example, with line 6A and 6B, okay,

and that's -- that's really IT talk.

And it -- the Griffith operator that you refer to, he's operating another environment, so they don't typically share alarms. Alarms are associated with environments.

MS. BUTLER: Yeah, okay, but --

MR. GOESON: So but that said, there are a set of valves, usually your injection and delivery valves, that they both see the status of. I just wanted to clarify that. The other valves beyond

that, they don't -- pipeline guys don't see.

MS. BUTLER: Okay, to just follow up on that just a touch, and then I promise we'll get back to the interview and not into the technical details, so forgive me for this, but I want to make sure I have a clear understanding before I ask my next question so I don't trouble you some more, and that is, you know, a lot of companies will create dummy points so to speak. It may be in a different environment, but when that particular environment has a certain element happen, then they will pass an exchange point, or they'll pass it to the central location, and that, in turn, will then have some programming behind the scenes that triggers another environment alarm. And so there's a potential handshake even though the environments are different, if that makes a little sense?

MR. GOESON: Yeah, and that makes perfect sense.

MS. BUTLER: Okay, so I just want to make sure that what you're telling me, Curt, is that there really isn't that type of exchange. There's no dummy points or environmental sharing alarms going on here.

MR. GOESON: No. What I'm saying is for a normal -- for normal operation, for low-severity alarms, there is typically no sharing. On your

point about if we get into some -- you know, how we talked about yesterday kind of different severities --

MS. BUTLER: Right.

MR. GOESON: -- if we get into a high enough severity, I belie -- that's where we start sharing.

MS. BUTLER: Okay, thank you.

MR. GOESON: Okay.

Q MS. BUTLER: Okay, so now I'm a little bit clear, and I can be a little more educated in how I ask this next question, which is the -- you said there was a green valve with a gray box because that's how it shows a comm. alarm, that there had been a blue line also come across the screen. An actual alarm had been cleared before you got on shift if I understood that right. Is that --

A It would have been -- it -- the alarm would have been answered, but cleared, no.

Q Okay, thank you. So the alarm was --

A Acknowledged.

Q -- acknowledged to be fair?

A Yes.

Q Okay. All right. So the alarm was acknowledged by someone that was previously on shift. Was that Dave?

A I don't know. I can't say that.

Q Okay. Okay. All right. So let me talk to your previous shift. In your previous shift, was this same valve in comm. alarm?

A I don't remember.

Q Okay.

A It really sticks out from the shift where I tried to start up because that's one of the things that I noticed before I was going to start up the line. If the line is already running and the valve goes comm. out, we're not as worried about it because we know we have flow through the valve. The valve is obviously open.

Q Right.

A When it really -- when it's an issue is when the line is not running, and we don't have the status on the valve.

Q Gotcha. Is this particularly one of those valves

that we periodically talk about you have more trouble with than others?

A This -- the one that was out -- I can't...

Q Okay, let me rephrase the question.

A No, no, I understand the question. I just can't remember right now if it's typically -- I don't th -- I don't think it is, but I -- I can't say for sure.

Q Okay, well, let me ask it this way: Have you -- has this particular valve experienced a comm.

failure while you've been on shift before that you remember?

A Yes.

Q Okay. All right. Thank you for that.

Okay, so we'll move on a little bit off of that kind of topic. When you guys had these comm. out limits --

A Yeah.

Q -- and you have a certain element by which they'll allow you to start, I take it that the alarms are automatically adjusted with those new limits, or do your alarms just stay in place even though your pressure has some type of limitation? Do you understand what I'm asking, or did I do a bad job on that one?

A Maybe just try again.

Q Okay, so what I'm asking is that there are some

alarms that controllers or you as an operator can move, correct, alarm set point limits?

A Alarm -- well, they're not alarm set points.

Q Okay.

A We -- we are able to put in an alarm that says if the pressure reads over this amount or if the pressure falls under this amount, then we will receive an alarm.

Q Okay. So are you allowed to move that all the way, or are there certain alarms that you can't touch,

like, for example, a high discharge or a high high? Are there certain severity of alarms that you can't do anything with; you can only change those that help you monitor? Or did I misunderstand that?

A No, there are -- we -- if you exceed max discharge or your high suction, then, yes, you do receive alarms. And those I cannot -- I cannot manipulate those at all.

Q Okay. In your training, do you remember anything that talked to whether -- when you go into a comm. alarm circumstance and thereby you have some comm. output limits that come into effect that I think if I understand the principle right, this is going to change the pressure profile, so to speak, that you're allowed to operate in to a safer limit based on you're not really sure about that piece of hardware and what's going on.

So on those comm. limits in your training, do they ever explain whether or not when these new limits come into play, if it automatically moves some of your alarm set points that you can't touch?

A Okay, when we are in comm. out, there are -- it restricts the way that we are allowed to change our discharge set points. When you're not in comm. out, we're allowed to use a relative set point change. The comm. out restricts us from using a relative set point command. We're only -- okay,

relative and -- what -- if it's on relative change, it's an --

MR. GOESON: Absolute.

A -- an absolute, so it only allows us to put in absolute set point changes. And with that, we will not be able to exceed the comm. out limit.

Q MS. BUTLER: Okay. But whether or not that has also lowered, say, your alarm limit for while you're operating in that mode, say, for high discharge or high high, whatever your severity -- highest severity is, you may or may not know that; is that a -- is that correct?

A No. No. There is -- when we go into comm. out, the column, it actually gets highlighted in a green background, so there -- you know for sure -- when you're in comm. out limits, you know because it shows up on your screen. It shows up with a green

background. Plus, if you tried to exceed your comm. out limit, the program will not let you exceed. You cannot raise your set point above the comm. out limit.

Q Okay. So -- all right, I think I've got it.

So while you might not see that in your alarm log or wherever your alarms are kept as a list, you do have a visual representation of where you are?

A Yes.

Q Is that --

A Yes.
Q Okay. All right. All right. When you do go into comm. limits, is there something in the alarm log that tells you you just went into that mode? Do you know?
A Yeah, there is, but what it is specifically, I don't -- I couldn't tell you right now.
Q That's fine. Okay. Is there anything that affects discharge pressure set point besides this comm. alarm limit? Like, for example, if there's suddenly a pressure restriction on a particular pipeline due to a bunch of anomalies they found on a pig run and they know they haven't got them all repaired yet so they've got to lower the pressure on it, is there anything that automatically restricts that pressure or changes your alarm limits or tells you that that's in effect?

A No. What happens is the engineers send the new limits to the shift leads, and the shift leads manually input the new restrictions. So on my end, if I go and open up my allowables, I can see the new restrictions, but I cannot manipulate those numbers.

Q Okay. Do you know, were there any restrictions on this line at the time besides due to this comm. alarm?

A I think I know where you're going with that. No.

No, they're -- no, they're -- or wait. Was there?
Yes, the only restrictions we had were the
restrictions that the engineers had placed for some
of the work that was being done further downstream,
not in the area that we're talking about here.
Q Okay. All right. Okay. And I think the 6B, two
stations upstream, I think you made a comment went
into the comm. limits as well. Did I --
A I -- I physically did that. I enabled the comm.
out limits for the two stations upstream of the
comm. out valve.
Q Okay.
A I had to initiate that.
Q Is that standard procedure?
A Yes.
Q Okay, so it's standard procedure; right?
A Well, not standard in that it's something that

we -- that's always there, but if we do have a valve that goes comm. out, that's one of the things that allows us to start up with not knowing for sure where that valve positioning is.

Q Okay.

MR. GOESON: Quite often, Tim, when they say "standard operating procedure" --

A Yeah, that's why I'm getting --

MR. GOESON: -- they just refer to our database, so that -- right? When people say SOP,

standard operating procedure, she's not saying is it a standard thing we do. She's just saying is that a procedure.

A Yes, it's --

MR. GOESON: Is that correct, Karen?

A -- it's a procedural thing, yes.

MS. BUTLER: Yes.

A Yes, it is.

MS. BUTLER: I will definitely be more careful about that in my next questions.

MR. GOESON: That's fine. We're just -- the SOP or the standard operating procedure isn't a common term in our control centre.

MS. BUTLER: Okay.

MR. GOESON: It's procedure database.

MS. BUTLER: And I will make sure that I'm very careful with that. So thank you for the point

of clarification on behalf of being patient with me.

Q MS. BUTLER: So as we get through this, I think I now get what's going on a little bit.

And then one of the other questions I had is what else can cause a comm. out limit? Is there anything else besides, say, not receiving the proper status back from the valve?

A Okay, I -- okay, let me just ask you this: You're asking me when I would enable the comm. out limits?

Q Now --
A Okay.
Q -- when you get a communication outage indicator on this particular type of valve, in your training, do they tell you what can cause that?
A Well, yeah, it could be as simple as a power outage. It could be some of the valves have a radio transmitter on them. It could just be an outage to that. It could be -- along with the power problem, it could be -- if it's a valve, it could be a battery pack to the valve. It -- it -- there's many things that could cause it.
Q Okay. And when you have a comm. outage, does that automatically generate MBS alarms?
A No.
Q All right. So we talked about that -- we went a little further on in this session, and one of the

things that got a little confusing to me is had Niles actually been bypassed before you came on shift?

A Yes.

Q Did the other controller -- you know, we got ready to start up, and you had confirmed with him -- I think you mentioned that you had exchanged information so you were ready to go on the very first startup. On the next shutdown, do you also relay that type of information to him, and does he

close valves both at those two locations?

A Yes.

Q Okay. And did you do that on this particular first shutdown?

A Yes.

Q Okay. So when we start back up, did we communicate again with them?

A Yes.

Q Okay. And what about on our last startup -- or shutdown? I'm sorry.

A Yes.

Q Okay. So each time we had verbal conversations with those two consoles?

A Yes.

Q Okay. All right. Thank you for that.

When you mention that you couldn't put the smaller unit up -- I believe it was at La Hood if

I -- or La Porte, sorry.

A La Porte.

Q La Hood is our DOT secretary.

At La Porte, when you can't fit that small unit up, does that have to do with power -- you mentioned power limits. Is it because if you put that up, it trips the power off, or is that limitations, like, due to power efficiency?

A For the smaller unit, there was actually something wrong with the smaller unit. I believe it was a

check valve, but other than that, I don't know. There was something mechanically wrong with the small unit at La Porte.

Q Right, but I think you mentioned that we knew that there was -- it was due to some type of power limitation, and so when you said that -- when you said a "power limitation," you just mean that something is mechanically wrong with the horsepower?

A No.

Q Is that -- okay, what do you mean?

A At La Porte, there are four units at La Porte station.

Q Right.

A Three of them are big units, and I'm not sure the exact horsepower rating. And then the fourth unit is a smaller unit. It's probably a half head.

It's probably half as big as the other three units.

Q Right.

A So when we couldn't get the fourth unit on at La Porte due to mechanical issues, we -- I was asked if we could start one of the other two big units, and I didn't think we'd be able to due to power limitations. We could probably --

Q Okay, but when you -- when you say "power limitations" in that context, what do you mean?

A We are only allowed to run so much power at

La Porte station, and to run two big ones would exceed the power that we're able to use at La Porte station regulated by the power company.

Q Okay. And so is this an internal thing regarding -- like, you're trying to save on power factor billing, or is this -- so it's an efficiency thing; you're watching your billing, and you're trying to contain that to not go over a power factor of a certain thing? Or is this physically that the power isn't available to allow it to go up?

A As far as I know, it is due to our power group. They allot us so much power at each station to run units. So other than that, I don't know if we physically can't because of the power coming into the station. I -- I -- I do not know.

Q Okay. So from your perspective, if that power

limitation had not been there, would you have put up more horsepower there?

A That was -- that was the plan to try to start another unit there, but we would run out of time at -- we would run over our ten minute, so we were shutting down. And then they were getting a plan together. But by then, my shift had already ended.

Q Okay. All right. And so now I'm going to ask you about the MBS alarm.

A Okay.

Q You'd mentioned that you got various MBS alarms, but what would be helpful for me is to understand, like, if you got the five-minute ones or if you ever hit the two-hour one. Or do you remember?

A I believe -- well, for sure I got a 5 and a 20, and I believe I did get 2-hour alarms as well.

Q Now, from talking with the previous controller that was on shift ahead of you, one of the things that he clarified is, you know, they got an MBS alarm; it was a 5-minute alarm. When I talked to the analyst, then that was a column separation, and he responded back to the operator with that or back to the shift leader which eventually got back to the operator with that information. So when you had these 5- and 20-minute MBS alarms and possibly even the 2-hour alarm, were you getting column separation type of feedback as well or not?

A Yes.

Q Okay. Is that common?

A Yes. Yeah, we -- we receive MBS alarms that we get an answer back that it's -- most of the time it's -- it's a column sep. or a bad input, probably a pressure, or there's -- there is a station bypass where the -- the pressures are stagnant, and they have to turn off a pressure to get the model to pick the proper points to give us a proper -- proper reading.

Q Okay. All right. I'm typing another note here.
A Yeah.
Q On all of those possibilities on any of the MBS alarms of the communications that you had with the leak detection system or the MBS people, did they ever say anything other than a comm. alarm with the exception of you explained the bypass situation when he came over and looked at your screen? Did they ever raise any other possibilities?
A No. When I was talking to the fellow, it seemed like it was -- it was a column sep. problem with -- and that's -- that's all that it was that I'm aware of.
Q Okay. So if you were to, like, give me an estimate for the time that you would have been under that assumption with any leak alarms, is that, like, until your second startup, or when would that have

changed to this bypass situation coming into play? And it can be a rough idea. I'm not -- you know, I just kind of want to understand --

A On the first startup, I didn't see any problem. As far as I was concerned, it was a column separation. On the second startup towards the end of it, I was starting to wonder if it might be something else.

Q Okay, thank you. Okay.

Was there -- I kind of relate this to a term, and maybe this is not something you traditionally

use, so we'll put it in your words once we have a chance to chat about it. I might relate all of this confusion to being technical difficulties. I might just say that we were having technical difficulties, and we were trying to figure out what it was in the control room that was causing this.

Was there any other type of technical difficulty that you're aware of that was going on even on your console or in the control room at large at this time?

A Not that I'm aware of.

Q Was there anything going on with your tracking, your CBT [sic] system?

A For CMT, it would be --

Q Sorry.

A -- it would be very difficult to pick anything off on CMT because when I got in, the line was shut

down, so I did not run track on line 6B, so there was nothing -- while I was there, there was nothing on CMT to look at. Once I started up 6B and ran it to run CMT, I'm expecting an imbalance because I had started up and had moved oil out of Griffith, but I didn't expect to receive the same amount of oil into Marysville because I was having problems. So the CMT would not have led me to believe that there was a problem in this -- in this case.

Q Okay. So when you bypass the station due to a pig

run, how does that get interfaced with CMT?
A It doesn't. They're -- they're completely separate. There's no connection as far as I'm concerned.
Q Okay, that's fine. And part of it is simply because I don't, you know, get to be there and see what you enter and exactly how that works, so...
A Okay.
Q There's some interface obviously between CMT and the leak protection system, and as a result of that, I was just trying to get a handle on whether or not the bypass would have been an issue there as well.
A I can't see it.
Q I think -- I think that that was all that I had this go-around other than I wanted to know did they -- after the leak -- this is after the fact,

after the leak has come into occurrence. Did they have you, like the other controllers, go over drug and alcohol test?

A We did. We went in for drug and alcohol testing, yes.

Q All right. And on your abnormal operating conditions training, when you're looking at things that they specifically highlight for you, is comm. alarms included?

A Yeah, it's one of the things that we go through,

yes, in our training.
Q Okay, and is the change in limitation, when you have the limitations, is part of that training?
A Yes.
Q Okay. And do they go through training on how the pig bypassing a station may impact leak detection alarms?
A I'm going to go with no.
Q Okay. Is there a lot of training on, like, column separation alarms and how to manipulate and operate around that?
A We do receive training on -- on comm. out situations, yes.
Q The way that you communicate with, say, Griffith or the other consoles, has that ever caused a problem in the past?
A No.

Q Okay. And with that, I think there might be some fatigue questions that other people may ask, so I'll leave it back to them. This will be it for my round.

A Okay.

MS. BUTLER: Thanks.

MR. JENNER: Before we go around, I just want to clarify one question that was just asked. I think the question and the answer may have not jived up.

A Okay.

MR. JENNER: Karen, I think your question was did you receive training on column separation.

A Oh, and I said col -- yeah, no, yes, we did receive on column separation. After I said it, I -- I wasn't sure what I said there. Yes.

MS. BUTLER: Thank you for that.

MR. JENNER: Okay, we'll go around. Rick?

QUESTIONS BY MR. GULSTAD:

Q MR. GULSTAD: Yeah, just a -- I'm going to ask you a few things. Just clarify a few things you might have already said, but I didn't quite get it. When you came on shift, what was passed on to you from the -- from the previous controller? Did he talk about the column separation issue or a comm. out?

A No.

Q Nothing was passed on to you?

A Not specifically on that, no.

Q And then when you talked to the MBS analyst, how close were you able to pinpoint where there was an issue? I mean, within what sort of a distance? Or I think you also mentioned that you had a -- the comm. out was at a sectionalizing valve possibly downstream of Marshall?

A Yes. The valve physically was downstream of Marshall. I just cannot remember the exact mile

post.
Q Okay. And when you get a comm. out, you're not real sure what's going on there? There's just some sort of a flag; is that right?
A It could signify -- well, it signifies that you're not communicating with that valve. So the valve, you don't know exactly what's happening at the valve.
Q Okay. Between Marshall and Stockbridge, how many -- do you know how much sectionalizing valves there are that you -- that you can see from your panel?
A I'd just be guessing, and if I had to guess, probably six or eight. If I had the display up, I'd be able to tell you exactly.
Q But the one in question, was that the closest one downstream of Marshall?

A No.

Q It was somewhere in the middle?

A It was -- from what I remember, it was the -- Marshall -- it was second or third one downstream.

Q Okay. Once you shut down the system, you're closing -- what locations would you close when you shut down?

A My routine sectionalizing valves.

Q So would this valve that you were having a comm. out, would that be one of them you'd close?

A No, it definitely was not.
Q Would there have been some valves between Marshall and Stockbridge that would have been shut down as part --
A Yes.
Q -- of your routine?
A Yes.
Q And so Marshall -- was Marshall also -- was there anything at Marshall closed?
A No, not that I could tell.
Q So upstream of Marshall, what would be the closest valve to Marshall that you would have closed as part of your shutdown?
A Okay, it's the -- the sectionalizing valve -- routine sectionalizing valve is -- I think it's just upstream of Minden.
Q Okay.

A I think it's between La Porte and Minden.

Q Okay.

A But I -- I'd have to look at my display to -- to tell you for sure.

MR. GOESON: The folks don't -- they don't know the numbers. They just know the -- they're differentiated on the display for them, differentiated between a routine and an emergency valve.

Q MR. GULSTAD: But on your screen -- I mean,

you don't know the distance, but you know -- you can see a physical location?

A It's flagged there. It's flagged as a routine sectionalizing valve. It looks different than all the other valves.

Q So then once you're closed down, there was some pressure on the line. Would you have seen what the pressure -- or would you have the capability of seeing what the pressure is at certain points once you're shut down?

A At specific points, yes, but in between where we have transmitters, you don't know what the pressures are there.

Q Okay, but -- so that sectionalizing valve, though, up closer to Minden that you did close --

A Yes.

Q -- were you monitoring that pressure? Did you know

if it was decreasing?

A The pressures were -- were relatively steady. They -- they weren't dropping or -- once we shut down and closed the valves, they -- they were relatively steady.

Q How about the sectionalizing valve downstream of Marshall, did you see any pressure drop there at all?

A Okay, sorry, the question again.

Q Okay, so upstream of -- or closer to Minden, that

sectionalizing valve, you didn't see any pressure decrease?

A No.

Q How about the closest spot downstream of Marshall, did you see anything?

A The close -- the next one downstream is the Stockbridge block valve, and when you close that, you saw the change at Stockbridge, but you didn't see a change anywhere else. The line was so thin that the only place you could see a change was at Stockbridge.

Q And was the pressure dropping there over time?

A No, it was -- no, it was stead -- the only time I saw a change is when the valve was opened or closed. Once it was opened or closed, it was steady.

Q Okay. But, again, that sectionalizing valve

downstream of Marshall that you did close, you weren't seeing any pressure drop there?

A No. No. I can't remember which way it worked. When I opened the valve, the pressure changed and then steadied, and when I closed it, it changed and then it steadied. It was just directly when I opened or shut the valve that it moved. Other than that, it was perfectly steady.

Q So you had no indication that pressure was rapidly decreasing that might have indicated a release in

product --

A No.

Q -- or anything like that?

A No, nothing like that.

MR. GULSTAD: That's all I've got.

MR. JENNER: Okay, any -- Curt, any questions?

MR. GOESON: No. Again, maybe just a clarification point.

MR. JENNER: By all means.

MR. GOESON: Karen, it's Curt. You had asked a question earlier about when pressure restrictions get implemented, if the operator could tell when those pressures were implemented --

MS. BUTLER: Right.

MR. GOESON: -- something along those lines, and I just wanted to add that, you know,

that process when those -- when pressures are changed for whatever the reason, they're implemented, like Tim alluded to, through the engineers and the shift leads. That's transparent to the operators, so they just become the new limits that they view, okay?

So I just wanted to clarify that. When they come in, unless they've had some discussion about it, they're just looking at a new set of high highs and highs and lows and low low, okay?

MS. BUTLER: So they don't -- they don't receive any, like, e-mail or verbal note?

MR. GOESON: There's a -- there's a process. There's a workflow process where -- when the engineers create the new limits, it goes into the fieldwork database, so there is records of that change. It's just not necessary to effectively operate to have -- to have that knowledge.

MS. BUTLER: Okay.

MR. GOESON: Okay? That's all.

MS. BUTLER: I would ask you one question. You say it's not necessarily that they have that knowledge to operate, but it would affect their profiles; correct?

MR. GOESON: No, the -- not if -- typically these changes are all within -- within a set of parameters.

MS. BUTLER: Okay.

MR. GOESON: Yeah. If they're really -- if they're a restrictive, there would be communication regarding that.

MS. BUTLER: Thank you.

MR. GOESON: That's all I had to add.

MR. JENNER: Okay, we'll go around just for follow-ups, and then -- I have just a couple follow-ups, and then I'm going to change direction just about off-duty things.

A Okay.

FURTHER QUESTIONS BY MR. JENNER:

Q MR. JENNER: From what we know now, the comm. out situation, was that related to the release?

A I would say no. It was another thing that I had to worry about during my startup, but, no, it wasn't directly related to the -- to the release.

Q Would it ever be in other situations? Are the two independent that you wouldn't expect any release of --

A The only way that it could cause a release is if the valve was closed, and the pressure coming into the valve created a rupture, but the pressure never -- the increase in pressure never made it -- never made it to that valve, so it wasn't -- the only way it could be a factor in this is as another

distraction.

Q Right. So I guess if you see a comm. out situation, there's no reason -- there's no technical reason to think that it's related to a release in any way?

A No.

Q They're independent functions?

A Yes.

Q Okay, thank you.

In terms of changing directions, I just have

some standard questions we asked everyone.

A Okay.

Q Let me ask you about your glasses. And you have a situation with your eyes going on?

A Yeah.

Q Can you tell me a little bit about that?

A [redacted]

[redacted]

[redacted]

[redacted]I

[redacted]

[redacted]

And it's not just at work. It's everyday life. When I go shopping, the whole works, it affects me everywhere. [redacted] [redacted] I've never had an issue as long as I've [redacted].

18 Q Have you had experts look at this?

19 A I've -- we're still in the process. I've been in

20 [redacted] I've had a [redacted]

21 [redacted]

22 [redacted]

23 [redacted]

24 Q In your experience, does this affect your ability

25 to operate the SCADA?

26 A No. [redacted]

27 Q [redacted]

A Yes.

Q -- on the day?

A [redacted]

Q Great, thank you.

How's your overall health besides that?

A It's good, yeah.

Q Good. Okay. Are you taking any prescription, nonprescription medications?

A No.

Q Nothing for --

A No.

Q -- for allergies or anything like that?

A The [redacted] here and there. Other than that, everything is good.

Q Good. Can you just run by your previous shifts before that you worked prior to Sunday?

A Okay, I remember that Friday -- Friday was a busy

shift. We had power outage at Mokena on line 6A.

MR. GOESON: Stephen, did you just want to know about shifts he worked?

Q MR. JENNER: Right, just the --

A Oh, okay. I had worked --

Q I didn't know if you were going there.

A I was going to tell you what I --

Q Oh, no, no, I'll save you from that.

A I worked -- I would have worked Wednesday, Thursday days; Friday, Saturday, Sunday nights.

Q So when -- so you had worked the previous Saturday, Friday, Thursday, Wednesday?
A Started on Wednesday day -- Wednesday, Thursday days and then switched to nights for Friday, Saturday, Sunday.
Q Do you have scheduled days off?
A Yes.
Q Which are those?
A I actually came in for an overtime on the Sunday. Somebody had called in sick or whatever. So Sunday would have been a normal day off.
Q This Sunday that we're discussing right now?
A No, the Sunday before.
Q The prior, okay.
A Because the set before would have been my Monday, Tuesday days; Wednesday, Thursday nights. I should have had Friday, Saturday, Sunday, Monday, Tuesday

off, but I came in for an overtime on the Sunday.

And then I came in for my normal shift on Friday.

Q Okay. So this week, had you worked Saturday, Friday, Thursday, Wednesday, Tuesday?

A No.

Q No, Tuesday off. And Monday --

A Monday off, and the Sunday was my overtime shift. So that normally would have been a day off.

Q Okay. And how -- have you -- how rested do you feel when you start your Sunday shift, this

particular Sunday shift?
A I would have had a little bit less sleep than normal, but I -- I felt fine when I came in and felt fine during the shift.
Q What were your sleeping hours from Saturday to Sunday?
A Okay, I would have got off Sunday morning, and I would have had a nap in the morning, and then I would have been up, and then I would have slept another couple hours before I came in. Probably two and a half hours before I came in.
Q Okay. And from Saturday to Sunday, when was your sleep period? When you woke up Sunday morning, what time would you have gone to bed Saturday?
A I would have went -- oh, Saturday?
Q Yeah.
A Okay, now you're --

Q Take your time.

A Friday night, Saturday. It would have been the same thing. I would have had a nap in the morning, and then I would have been up during the day, and then I would have had probably two and a half again or whatever in the afternoon before I came in.

Q Before you came in --

A For Saturday night.

Q Okay, Saturday night starts at --

A Well, Saturday night I come in for my shift at 6.

Maybe I'm not understanding the question.

Q What time did you get off your shift on Saturday, did your shift end on Saturday?

A Saturday morning, it would have been probably around that 6:15, whatever in the morning.

Q Okay. So you come home. You take a nap?

A I watch a little -- I watch a little bit of TV. Then I had a nap. Then I got up, continued on with my day. And then I would have went to sleep again at about 2 or whatever and got up at 4:15, 4:30 to come into work.

Q Okay, that -- I have to keep in mind it's 12 hours off.

A Yeah, exactly, yeah.

Q Okay. So naps are morning nap, and how long were those?

A Probably half an hour to an hour.

Q Okay. So is that the way you like to handle it, a couple periods of naps rather than, like, a block of time to --

A Normally I'll get home in the morning. I'll watch some TV, and then I'll -- I'll sleep, and then I'll get up and come to work. This last weekend, I just -- I wasn't able to sleep, and I would come home. I'd have a nap for a bit. Then I'd get up, get a few things done. And then by the time I laid down and tried to get to sleep, I probably got two

and a half hours again in the afternoon.
Q What period do you strive for?
A Usually if I can get four and a half hours of sleep, that's -- I can't sleep longer than four and a half hours at a time.
Q That's on the lower end. I mean, that's --
A Yeah. Oh, I just -- I -- my dad was the same way working shift. He -- I just -- if I sleep more than four and a half -- I can't. If I sleep, like, for six hours, it was -- it was a big day.
Q Then that's the four-and-a-half-hour block of time?
A Yeah.
Q Okay. So when you take naps, you sort of divide it up into two sections. Does that -- does that do it for you, or is it --
A Most -- yeah, yeah. It -- I -- I don't -- when I'm on shift, I don't sleep a lot. Then I find it

works better if I can get two little blocks of sleep because I usually end up getting more sleep that way than if I just try to sleep once because I -- I just can't sleep that long.

Q Okay, yeah, everyone is a little different.

Do you -- when you do take naps and stuff, are you -- are those solid?

A Yeah. Oh, yeah.

Q Do you wake up during those times?

A No. No, I'm out. And I sleep and that's why when

I get up -- when I do wake up, there's no point in trying to sleep anymore. I just -- I won't sleep.

Q Okay.

A When I'm out, I'm out and -- otherwise I'm up and at it.

Q So no sleep problems that you're diagnosed with --

A No.

Q -- or snoring?

A No.

Q Good.

MR. JENNER: We'll pass it around back to Karen.

FURTHER QUESTIONS BY MS. BUTLER:

Q MS. BUTLER: I actually think other than, you know, the comm. out, we talked about the fact it's not related to release in this case because if the valve had been closed, you would have had other

indication of... So I think that we talked about your fatigue-related questions, and it sounds to me like you're just not a heavy sleeper for any solid length of time normally.

Was there anything specific that you thought was going on that could have caused this last week to have less sleep?

A Except for that it was a shift during the weekend, and there -- there was people out and doing things, but if I'm -- if I'm ready to sleep, I lay down and

I fall asleep. If I'm not, I just -- I don't sleep. It's -- it's always been this way.

MS. BUTLER: I don't think there's anything else that I've got on my list.

MR. JENNER: Okay, we'll pass it to --

MR. GULSTAD: Nothing else.

MR. JENNER: Curt?

MR. GOESON: No.

CLOSING BY MR. JENNER:

MR. JENNER: Okay, one more. Then I throw an open-ended question. First I want to thank you very much for being here and sorry for the inconvenience for yesterday, but we do appreciate --

A No, it's a process.

MR. JENNER: You've been a tremendous help, so we appreciate that.

What we're here to do is to make the entire system safer.

A Yeah.

MR. JENNER: And if there's anything that you can think of, because we have a lot of experienced people, and these things still happen and for various reasons. If there's anything you can think of now in terms of technology and rules and procedures and operations that could make the system safer, I'd love to hear from you.

A I can't think of anything right off here.

MR. JENNER: Okay. If you do down the line, please communicate to us --

A Okay.

MR. JENNER: -- and we appreciate that.

So, again, thank you for your time --

A Okay.

MR. JENNER: -- and your help, and we'll finish the interview.

INTERVIEW CONCLUDED AT 10:50 A.M.

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CERTIFICATE OF TRANSCRIPT

I, the undersigned, hereby certify that the foregoing pages are a true and faithful transcript of the proceedings taken down by me in shorthand and transcribed from my shorthand notes to the best of my skill and ability.

Dated at the City of Edmonton, Province of Alberta, this 9th day of August, 2010.

_____

C. L. Stabbler, CSR(A)

Court Reporter

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UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *

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ENBRIDGE OIL SPILL, * Docket No.: DCA-10-MP-007

MARSHALL, MICHIGAN *

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Interview of: Tim Chubb

Date: 08 31 10

CHANGES TO STATEMENT

WITNESS NAME: Tim CHUBB
DATE OF STATEMENT: 08 31 10

PAGE	LINE	CHANGE	REASON
14	14-16	The alarm had not be cleared itwas stil active just not list of alarms to acknowledge	
18	22	Mendon station	
40	11+17	pump should be ~~BUMP~~ BUMP	
57	1	...if it's not a relative change.	
74	13	steady.	