UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

Investigation of:	
ENBRIDGE OIL SPILL MARSHALL, MICHIGAN	Docket No.: DCA-10-MP-007

Interview of: TIM CHUBB

Crowne Plaza Hotel
Edmonton, Canada

Wednesday,
December 15, 2010

The above-captioned matter convened, pursuant to notice.

BEFORE: MATTHEW NICHOLSON
Investigator-in-Charge

APPEARANCES:

MATTHEW NICHOLSON, Investigator-in-Charge
National Transportation Safety Board
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RAVINDRA CHHATRE, Accident Investigator
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CURT GOESON, Control Center Supervisor
Enbridge Oil Company, Inc.
[redacted]

I N D E X

I N T E R V I E W

MR. NICHOLSON: Okay. I think we'll go ahead and get started.

Good morning. Today is Wednesday, December 15, 2010. My name is Matthew Nicholson. I am an investigator with the National Transportation Safety Board of Washington, D.C. We are currently at Edmonton, Canada, at the Crown Plaza Hotel.

We are meeting in regards to the pipeline spill in Marshall, Michigan, that occurred on July 25, 2010. This is case number DCA-10-MP-007.

Before we begin, Tim, I'd like you to please state your name and whether we have permission to record this interview.

MR. CHUBB: I'm Tim Chubb and yes.

MR. NICHOLSON: Also if you'd like, you're permitted to have one other person present during these interviews. Now this is a person of your choice, supervisor, friend, family, nobody at all. Can you please confirm for the record whom you have chosen to be present during these interviews?

MR. CHUBB: Curt Goeson.

MR. NICHOLSON: So at this time, I guess we can go ahead and --

UNIDENTIFIED SPEAKER: Curt Goeson.

MR. NICHOLSON: And I think -- I'll stop the recorders here for just a second while they get prepared.

(Off the record.)

(On the record.)

MR. NICHOLSON: We're back on the record here. Let me just finish up this preamble here.

Now we've gotten Tim's permission to record and his choice of person to be beside him during the investigation.

I'd like to start by going around the room and having each person introduce themselves. Please state your name, the spelling of your name, the organization you represent and a business e-mail or phone number that you can be contacted at. I'll start and we'll go to my left.

I am Matthew Nicholson, M-a-t-t-h-e-w N-i-c-h-o-l-s-o-n. I am the investigator of the Marshall, Michigan incident, at the NTSB. My contact information is [redacted]

MR. CHHATRE: I'm Ravindra Chhatre. That's R-a-v-i-n-d-r-a, last name Chhatre, C-h-h-a-t-r-e. I'm an accident investigator at National Transportation Safety Board, [redacted] My e-mail is [redacted], and I'm here to assist IIC Matt Nicholson in his investigation.

MR. PIERZINA: I'm Brian Pierzina, an engineer with the PHMSA [redacted], and that's B-r-i-a-n P-i-e-r-z-i-n-a, and my e-mail is [redacted]

MR. GOESON: My name is Curt Goeson. I'm Control Center Operations Supervisor with Enbridge Pipelines. My contact information is [redacted] C-u-r-t G-o-e-s-o-n.

MR. CHUBB: I'm Tim Chubb with Enbridge, Control Center Operator, and contact is tim.chubb@enbridge.com, T-i-m C-h-u-b-b.

MR. JOHNSON: Jay Johnson, Senior Compliance Specialist, Pipeline Safety, Compliance Group, Superior, Wisconsin, [redacted] J-a-y J-o-h-n-s-o-n.

MS. BUTLER: I'm Karen Butler. I work for PHMSA [redacted] [redacted] [redacted]. I'm the Supervisor of Accident Investigations, and my e-mail address is [redacted] and that's K-a-r-e-n B-u-t-l-e-r.

MR. NICHOLSON: Okay. I think we're ready to go. I guess I'll start with my round of questions and then we'll go around the table and ask follow-up questions.

INTERVIEW OF TIM CHUBB

BY MR. NICHOLSON:

Q. As I explained earlier, Tim, I'm going to be asking you stuff from your transcripts which I think you've got a copy of there, phone records, trends and stuff. So I might be referencing some of that, and I've got copies here if you want to look at them. So to start with, I think I'll start with the transcripts, your previous set of transcripts. In the transcripts, on page 8, you had discussed shutdown items I think with Dave during passdown and changed it to scheduling. Was that covered in passdown and changed it to the schedule?

A. Yeah, we -- they had -- I'm just trying to remember what happened here. They were scheduled to end the Stockbridge

delivery and swing down, down the line. I don't remember exactly where they were going, but instead after the delivery had ended, they just decided to shut down at that point. So they had shut down a little bit earlier than scheduled.

Q. So that was communicated to you at passdown --

A. Yes.

Q. -- and that's the first time you heard of it. Was there any mention of the MBS or pressure alarms that were received during Dave's shutdown?

A. I don't remember. At that time, I know I did talk to Dave or Dave had mentioned the MBS alarm, that one came in and cleared.

Q. Okay. So the MBS alarm was discussed.

A. I don't remember.

Q. Okay. And that's fair. And no pressure alarms were mentioned --

A. No.

Q. -- that he received?

A. Not that I remember.

Q. Okay. Can you get to an alarm log from your screen to see --

A. Yes.

Q. -- alarms? And did you do that or did you have reason to do that?

A. I -- as far as I can remember, I didn't, and I didn't

have a reason at that time to look at them.

Q. Did you ever go back during your shift and look at shutdown trends or alarm logs after the start of problems?

A. No.

Q. On page 9 of your transcript, you mention that you shut down the line the day before. Was that line 6B?

A. Yes.

Q. Okay. And what time and why and where? Do you remember?

A. No, I don't have a clue.

Q. Do you know what portion of the line was shut down?

A. It looks -- from the -- I don't remember. From the transcript, it looks like I was delivering into Sarnia, and I had shut down just to turn into Stockbridge, just as my Sarnia delivery ended. So I would have -- it looks -- from the transcripts, it looks like I was delivering into Sarnia, I had to turn into Stockbridge, and then I turned into Stockbridge, and that's when I shut down.

Q. But you don't remember what time?

A. No.

Q. Going back to passdown between shifts, is there anything mandatory that needs to be covered on passdowns?

A. Mandatory, not -- I wouldn't say mandatory. There's information that's usually passed. It's usually the same type of information that's passed on every shift change.

Q. Well, what sort of information?

A. Maneuvers that are coming up, if you had any problems, if there's guys out on the line working, that sort of stuff.

Q. Okay. So MBS alarms, low pressure alarms, those all would be significant things to you?

A. For MBS alarms, we do get MBS alarms that clear. So if I had a MBS alarm that cleared, I probably wouldn't mention it.

Q. Okay.

A. If it was a MBS alarm that had occurred and had not cleared yet, then, yes, that's something that you'd mention because probably the MBS guys are looking into it and just to pass that on, that they -- you're probably expecting an answer back from the MBS guys.

Q. Okay. So it could happen that you have a MBS alarm as you're leaving shift, and you're not required to stay on until that gets resolved?

A. No. If the other person's comfortable with it, you just pass on the shift, and then they deal with it.

Q. Okay. Even though they might not have the background to know what --

A. Some of those alarms, you could get a two-hour alarm that happened right before shift change. So in order for that to clear, you could be waiting around up to two hours for that alarm to clear. So probably not.

Q. Is there a written procedure for passdown or shift

change?

A. At this time, when the incident happened, no, there was no -- that I know of, there's no specific procedure for it.

Q. There's no specific procedure. So --

A. Okay. There's no procedure that I know of.

Q. Okay.

UNIDENTIFIED SPEAKER: Was there one, is there kind of a pseudo one that people do?

MR. CHUBB: Well, yeah. Basically there are some of the consoles that have a more specific rundown sheet. Our console does not. It's typically you're passing the same sorts of information around each shift, and if there is something that isn't clear, normally the person coming on to shift will ask about it or gets more clarity on it.

BY MR. NICHOLSON:

Q. Okay. In your transcripts, you said when you were starting up the line, you noticed a gray box around about 6:32 which you indicated was a com out, a loss of communication. Should that have been noticed by the previous operator?

A. Yeah, they should have noticed it. Whether or not when that valve became com failed, I don't remember. It could have become com failed as soon as the guy left ahead of me. I don't remember, but typically, yeah, you'll notice a com out.

Q. If it was com out when he left, you would have seen an active alarm though, right?

A. Okay. There's different types of alarms.
Q. Okay.
A. Yes, in the active alarm, it probably would have still shown. Active alarm is not the main alarm screen that we look at. We usually look at our unacknowledged alarms.
Q. Okay.
A. So whether or not you would have seen that in the active alarm, you're not always going to see it.
Q. So was it in the unacknowledged alarm screen?
A. No, because it would have been acknowledged.
Q. So it was acknowledged.
A. But that could have been from the day before. It could have been that shift. It could have just happened. I don't remember.
Q. Should there have been a facman put in on that?
A. Yes, we typically put facmen in on that. Yeah, for com out valves, usually there's a facman because it's a problem report, so we can get somebody to look at it.
Q. So did you check facman to see if there was one, a (indiscernible) one?
A. Not that I'm -- I -- not that I'm aware of.
Q. Not that you're aware of.
A. I don't remember.
Q. If you checked or you don't remember if there was one.
A. I don't remember if I checked or if there was one.

Q. Okay.
A. I don't remember any of that.
UNIDENTIFIED SPEAKER: But you didn't do one.
MR. CHUBB: I don't think I did.
UNIDENTIFIED SPEAKER: Okay.
BY MR. NICHOLSON:
Q. Did you ever think the lack of pressure at Marshall was a valve issue, a closed valve?
A. No.
Q. No. On page 17, you said this was not a normal start up were your words.
A. Yes.
Q. You started up 6B before, correct?
A. Yes.
Q. Do you typically skip pump stations on start up?
A. On line 6B, there -- yes, usually the port station on the initial start up gets skipped, and I'll start up the rest of the stations usually in their normal order.
Q. That's if you have all stations.
A. That's if I have all pumping stations available to me.
Q. You started up line 6 before with a pig in the line?
A. Yes.
Q. And a bypass station?
A. I can't say for sure, but I would say, yes, I probably have.

Q. It's not unusual then --
A. No.
Q. -- to start the line with a pig.
A. No.
Q. It's not unusual to have a station bypass on start up?
A. No.
Q. Okay. Have you ever had pressure problems before if you skipped stations?
A. Yeah, the pressures don't come in like they normally do. It takes longer to move pressures around.
Q. But you still an increase downstream.
A. Eventually, yes.
Q. It just takes longer.
A. Yes.
Q. A lower flow.
A. Yes.
Q. Okay. Is there a procedure that would dictate which stations have to be capable of running for a successful startup?
A. No.
Q. Okay. Have you ever had more than one station down like in series, like a report, Niles be down?
A. On 6B, I don't think so because 6B would be really tough to run if you had more than one station out.
Q. Okay. So you've never had a time, that you can think of, when you had more than one station down?

A. On 6B, I -- on 6B, I would doubt it. I know on 6A I have for sure, but 6B, I don't think so.

Q. Okay. Do you know, is there an engineering review done of the stations prior to a pig run or shutdown that kind of look at the hydraulics and say, you know, Niles is going to be out, yes, we have enough pump pressure upstream to get through the line? Do you know?

A. I know that they have done those types of studies before. Whether or not they've done one for 6B or if they did one before 6B, I wouldn't have a clue.

Q. Okay. They don't communicate anything to you from engineering?

A. Sometimes they do. Sometimes they'll say, look, we're planning on doing this type of work. We're going to be looking at certain pressure restrictions or stations where you won't be able to use pumps. This is what we expect.

Q. Okay.

A. That did not happen for this, for this situation.

Q. Okay.

A. Well, I can't say it didn't happen as far as I know.

Q. It wasn't communicated to you.

A. I didn't have that information. Yes.

Q. I was just confused by this. Maybe you can clarify. Page 17, lines 17 and 18, written here. "Please elaborate on how you had flow into Marysville when the line was static." I'm

asking, was this from the day before?

A. No, this was as I opened up to start up the line. I had the Marysville, the Sarnia guy open up, and I --

Q. That's the first thing that happens. The tanks valves are opened. Is that what we're talking about?

A. Okay. When we start up, I'll open up my routine sectionalizing valves. Once those are open, and I've already given the other operators a heads up, but then he'll open up his valve, and then I confirm that he actually had flow into his tank, meaning he had an open flow valve before I started.

Q. That's just gravity at that point. There's no pump.

A. Gravity or -- yeah, static, whatever it is, yes.

Q. Okay. So that's what you're discussing here.

A. Yes.

Q. Okay. You open up those valves and there's some runoff.

A. There's some, yeah, he had some movement of oil into his tank.

Q. And Marysville, where is Marysville? I don't have a good feel for -- where does that come off the line?

MR. JOHNSON: That's going to be just before the St. Clair River crossing.

MR. NICHOLSON: So it's after Howell?

MR. JOHNSON: Yes.

MR. NICHOLSON: Okay.

MR. JOHNSON: I want to say 5, 6 miles from the river to

give you an idea.

MR. NICHOLSON: Okay.

BY MR. NICHOLSON:

Q. Now can you just walk me through, and I think we're already on the subject, how start ups are performed? What are you looking for when you're starting up? How do you manage transient spikes or is that even a concern?

A. Okay. On a typical start up, I give heads up to the beginning and which will be whoever's the end of wherever the delivery is. I'll open up my sectionalizing valves, make sure they're opening. I'll talk to the operator at the delivery end, make sure that they're open, and that they're, as far as they're concerned, they have a good flow bath, and then I'll talk to the injection site and ask for some booster pumps, so that I can start my mainline pumps.

Q. Okay. So they start the boosters, and -- but first you've given an open command to the -- is the injection valve or the --

A. I don't touch any of those valves.

Q. -- they do that?

A. Yeah, the operator at the injection site does.

Q. So when do you start the first pump?

A. Once I see an increase in pressure from the booster pumps to my main line pumps, then I'll start a mainline pump.

Q. And what are you looking for on pressure?

A. Depending on, depending on the injection sites, sometimes it's just a bump in pressure. Sometimes I won't see a bump in pressure, and I'll actually ask the operator, are your pumps on because I won't see that, and sometimes it will be a dramatic increase and I know that the booster pumps are on, and I've got to start a pump.

Q. Okay.

A. It depends on the situation.

Q. And as you start Griffith, you're just looking for pressure to build at each --

A. At each station waiting for pressure to build so that I can start another pump.

Q. Are you watching trends? Do you ever watch trends while you do a start up?

A. Not unless I have a reason to.

Q. Okay. So you're looking at -- what are you looking at? Just the -- is it the line?

A. Line display.

Q. Line display.

A. Yeah. I don't know what you guys have for pictures.

Q. I've got a few. I've been -- I just went to the control center yesterday.

A. Okay.

Q. I've seen the hydraulic display.

A. Yeah, I will watch that sometimes, the MBS display.

Q. Uh-huh. Yeah, okay.

A. But typically I'm just watching my line display and making sure the pressures are moving and that I have pressure building so I can start the pump at the next site.

Q. Okay. So you're really not -- there's nothing you're doing to manage transients for surge on start up or --

A. Yes. We, we'll take control of our discharge or suction set points so that as the pump comes on, it doesn't hit fully.

Q. Okay.

A. That as it comes on, we can open it up and --

Q. (indiscernible).

A. -- try to, yeah, try to make it as -- yeah, exactly.

Q. Okay. You're doing that all through set point changes.

A. Set point changes, yeah.

Q. On page 19 of the transcripts, I wanted to revisit the 10-minute rule and how it was extended to 20 minutes. So was this calculated from the CMT system? How do the (indiscernible) arrive at a 22-minute fill-in time?

A. With the drain up into Marysville and drain up on the shutdown into Stockbridge.

Q. So that's a number they came up with? They calculated that number?

A. They were -- the (indiscernible) by CMT was looking for the drain up for those situations, to get a total drain up.

Q. And that was --

A. Volume.
Q. And was that Darin?
A. Aaron and -- Aaron and Ghazal were looking at that.
Q. Who's Ghazal?
A. She's my shift mate. There's -- for us, we have two consoles that I operate. There's the line 4 and 14, and then there's the line 366 and 17 in Stockbridge.
Q. Uh-huh.
A. So we're both trained on those consoles and can work either console.
Q. She sits behind you then?
A. Beside. In the groupings?
Q. Yeah.
A. Did you see the groupings?
Q. Yeah. I'll have to pull that sheet up. I don't have it handy.
A. Well, across from me at the next console.
Q. Okay. And can you spell her name please?
A. No.
Q. Okay.
MR. CHUBB: Curt, do you know?
MR. GOESON: G-h-a-z-a-l Derhami, Ghazal Derhami, D-e-r-h-a-m-i.
MR. PIERZINA: Maybe we need to make an information list. C-h-a --

MR. GOESON: G-h-a-z-a-l, Ghazal, and then Derhami.
MR. PIERZINA: G-h-a-z-a-l.
MR. GOESON: Yep. And then --
MR. PIERZINA: D-e-r-h-a-m-i.
MR. GOESON: Correct.
MR. PIERZINA: And Aaron. Is that E-r-i-n?
MR. CHUBB: A-a --
MR. GOESON: Aaron is a double A, and we interview him this afternoon.
MR. NICHOLSON: That's Aaron Zimmel. We've already got Aaron's.
MR. PIERZINA: Okay. Yeah. Who is this other person?
MR. CHUBB: My shift partner.
MR. PIERZINA: Okay. Coworker.
MR. CHUBB: Coworker.
MR. GOESON: The one he just gave you, you mean?
MR. PIERZINA: Right, yeah.
MR. GOESON: Okay. You're just -- maybe you could answer Brian. He just didn't maybe understand who that person was.
MR. PIERZINA: Your shift mate?
MR. CHUBB: Yes.
MR. PIERZINA: That was a she, right?
MR. CHUBB: Yes.
MR. PIERZINA: And her name is?

MR. CHUBB: Ghazal.

MR. PIERZINA: Oh, okay. All right.

MR. CHUBB: I didn't understand the question.

MR. PIERZINA: All right. I thought it was just one big long name, but there's a first name to it.

BY MR. NICHOLSON:

Q. Okay. That's the first time I heard that. So Ghazal actually helped.

A. Ghazal and Aaron had the -- because I was busy dealing with stuff. They pulled up the procedure over on her computer.

Q. Oh, they did pull up procedure?

A. Yes.

Q. What procedure would they have pulled up?

A. They were looking up the 10-minute rule. They were, they were trying to help me out because I was busy dealing with stuff. So they went to Ghazal's computer and pulled up procedures there.

Q. But there is no procedure called a 10-minute rule. There's a procedure for start up, right? What procedure are we talking about?

A. There's -- as far as I'm concerned, the 10-minute rule is a procedure.

MR. GOESON: It's a reference.

MR. NICHOLSON: It's a reference, right, yeah.

BY MR. NICHOLSON:

Q. I guess I'm looking for more exact. You don't know which, which procedure they were looking at. Start up.

MR. GOESON: And then they were doing calculations --

MR. CHUBB: Yes.

MR. GOESON: -- of the drain up.

MR. CHUBB: The drain up, yes.

BY MR. NICHOLSON:

Q. We should back up a little bit --

A. Okay.

Q. -- because the drain up counts really only happened after you hit your 10-minute mark, right?

A. As we were approaching the 10-minute mark, they started looking into the drain up, to extend the 10-minute rule.

Q. So you had hit the MBS alarms prior to that?

A. I'm sure I did.

Q. So maybe what they were doing was going through the MBS alarm?

A. No.

Q. No.

A. No, Jim was looking at the MBS alarms for me.

Q. But the procedure that Ghazal and Aaron were referring to, might have been the MBS alarm procedure?

A. I don't think so.

Q. Okay.

A. As far as I know, they were looking up the 10-minute

rule.

Q. Okay. We're going to need clarification on that.

A. Okay.

MR. NICHOLSON: I don't have that. So I'll make that an IR request or --

MR. GOESON: We can certainly make it a request and then maybe --

MR. NICHOLSON: Or maybe we could talk to Aaron.

MR. GOESON: -- Aaron, but it's kind of a -- I guess I'll put it on the back burner.

MR. NICHOLSON: Okay.

BY MR. NICHOLSON:

Q. So as far as you know, they were looking at a procedure that somehow told them what to do in the event of an expired 10-minute start up?

A. Yes. Yeah.

Q. And as part of that procedure, they were to calculate the drain --

A. Drain up time to extend the 10 minutes.

Q. Okay. So there was an allowance in this procedure as far as you understood --

A. Yes.

Q. -- that you could calculate that, divided by your current flow rate, extend your time by that?

A. Yes.

Q. Okay. And that number came out to be 22 minutes?
A. Yeah, and that's -- I don't remember if that was 22 minutes total or 22 added. I don't remember.
Q. Okay. Do you recall -- it might be in the transcripts, I forget. What was the flow rate you were at at the time?
A. No, I'd have to -- no, I'd just be guessing.
Q. Okay. So have you ever -- was this typical? Have you ever had a start up on 6 where you had to extend past that 10-minute threshold?
A. No.
Q. Okay. So this was unusual?
A. Yes.
Q. It was unusual but you trusted your shift lead and your coworker. I'm just curious. Why was Ghazal involved?
A. Just because usually, like I said, she's also trained on my side.
Q. Okay.
A. And when Aaron came back, it's easier for him to just go to the next console and do that stuff and give me space so that I can operate, so the next console and the person that's trained to do the same thing that I am is right beside me. So that's where they went --
Q. Okay.
A. -- so that they're still close but not right on top of me, just so that I can do my job.

Q. Where was Darin at that time? Was he involved at all in this?

A. I had talked to Darin earlier at the -- right at this time, he was -- he wasn't right there. I can't remember if he had been over to my desk or not. He was probably up at the shift lead's desk, and the shift lead's desk is far enough away that when I was concentrating on my stuff, I don't know what's happening over there.

Q. Okay. And you did mention that you had MBS alarms prior to the 10-minute mark, right?

A. I'm sure I did.

Q. Those you gave to?

A. To Jim.

Q. You gave them directly to Jim? You called Jim?

A. Actually, I don't remember if I called Jim or not. I know that Jim had walked over shortly after the start up. He was -- from what I remember, he was -- he had been watching, and he already knew about the MBS alarms before or as I was going to contact him. He already knew and watching.

Q. Okay. Was Darin maybe handling the MBS alarms?

A. Could be. I don't know. He was up at -- as far as I remember, he was up at the front. So I don't know what he was doing.

Q. Okay. So you were at your desk --

A. Yes.

Q. -- and you were involved in other things. But you were aware that Aaron was doing CMT calcs for billing.

A. Yes, because they were at the desk next -- right next to me, and he had to get my track out of our drawer.

Q. And did you pull a trend up at that time?

A. Not that I remember.

Q. So who got back to you on the MBS alarms?

A. Jim.

Q. It was Jim. And what do you expect to get -- what did Jim tell you in this instance?

A. He -- to just keep going. He was expecting that the MBS would clear and everything would be good.

Q. Did he tell you if it was a valve alarm? What do they typically -- what do you get from a MBS analyst as an operator?

A. Sometimes it's just -- sometimes it showed clear. The model seems to be doing what it's -- the model seems to be working properly or they're not sure. They'll have to look into it or, no, everything looks good. It should be okay. It depends on the situation.

Q. And in this situation, he said which one of those?

A. He said everything looks good. It should clear. Keep going.

Q. So I would interpret that as the model is working.

A. I don't know if he specifically said that but, yeah, as far as I knew from what he could see, everything looked like it

should be okay. Everything should fill in. There was no -- he didn't have any concern for -- to shut down or that things weren't going to work out.

Q. I'm hearing on your screen, on the operator's screen, and I haven't seen them yet, we hope to do that this week, that you have a display or a change of color at the pressure, I guess on the line of the stations that indicates column sep. Is that true?

A. Okay. You'll have to do that again.

Q. Do you have -- I think it's on the pressure displays on your -- I don't know if it's your line.

A. Not on the pressure display, no.

Q. You have some indication of column sep?

A. On the MBS display, there is a hydraulic line that if it touches your elevation line, then that usually signifies that you have some column separation.

Q. Okay. So there's nothing that changes color, no pressure tags.

MR. GOESON: I think when the pressure gets below --

MR. CHUBB: Oh, you're talking the actual pressure.

BY MR. NICHOLSON:

Q. Yes.

A. Okay. When the actual pressure falls below a certain point, yes, it'll turn blue. I think it's blue.

Q. Okay. Was that appear on Marshall?

A. I, I can't remember. I would say that with the low pressures it probably was but I don't remember.

Q. When the MBS analyst gets back to you saying the model's fine, did he call it column separation?

A. I don't remember. The only other thing that -- no, I don't know.

Q. You don't recall?

A. No.

UNIDENTIFIED SPEAKER: Would -- because you had the low pressures at Marshall when you were starting up --

MR. CHUBB: Yes.

UNIDENTIFIED SPEAKER: -- were they probably already in that color? So they wouldn't have changed.

MR. CHUBB: Yes.

UNIDENTIFIED SPEAKER: Okay.

MR. CHUBB: Yeah, they would have already been low and we wouldn't have had enough pressure to change them back to green.

UNIDENTIFIED SPEAKER: All right.

MR. CHUBB: So they would have been -- I mean --

UNIDENTIFIED SPEAKER: So you didn't see a color change --

MR. CHUBB: No.

UNIDENTIFIED SPEAKER: -- because they were that color already.

MR. CHUBB: Yes.

UNIDENTIFIED SPEAKER: Because -- and, you know, I had that same maybe assumption as you did yesterday that the column separation changed colors. I think we kind of combined some of our hearings. I think the low pressure on the screen, and maybe Curt can help here, that changes colors but in others, it sounds like that MBS line, when it hits the elevation, that's the indication of when you have potential column sep?

MR. GOESON: It could be, yeah.

BY MR. NICHOLSON:

Q. You're looking at both, the low pressure and the hydraulic. So what are the two lines? Elevation --

A. There's actually three lines. There's typically a flow line, your hydraulic line and then your elevation profile.

Q. And it's when your hydraulic line touches your elevation that you're -- which makes sense.

A. Yes.

Q. Okay.

UNIDENTIFIED SPEAKER: Did we do that right, Curt?

MR. GOESON: Uh-huh.

UNIDENTIFIED SPEAKER: Okay.

MR. CHUBB: I didn't --

MR. NICHOLSON: Curt says yes.

MR. GOESON: Sorry.

UNIDENTIFIED SPEAKER: So that helped. I wasn't quite picking up on that yesterday because I didn't think something

changed colors when we have column sep. So that helped a lot. Thank you.

BY MR. NICHOLSON:

Q. So I guess where I was probably going with that is when -- do you look at that? When the MBS analyst gets back to you and says this looks like column sep or the model's working, it would be normal for you to validate what he's telling you by looking at your screen to make sure that you do, in fact, have --

A. Yeah, that there's low pressure.

Q. -- a low --

A. Yeah.

Q. Okay.

A. Yeah.

Q. And did you do that?

A. I can't remember.

Q. So just in general, the events that happened on the 26th, you contacted your shift lead, him contacting MBS, MBS getting back to you, that's pretty typical of how it normally goes --

A. Yeah.

Q. -- in an event like that?

A. Yeah.

Q. And I guess I'm still trying to get a feel for people's roles here. So I'll ask you again. What is it you look for? What do you expect to get from the MBS analyst? Do you expect him

to tell you, hey, Tim, this is a leak or --

A. No, typically they wouldn't say that. Typically they'll come back with the model looks like it's working properly and then we'll have to look a little bit, without an explanation, but the model looks like it's working. Then we'll have to look into, we'll have to look into it deeper, or else they'll come back and say, no, everything looks like it should be fine, that it should fill in. You alarm should clear. Those are the types of things we get back from them.

Q. Okay.

MR. CHHATRE: Who is they?

MR. CHUBB: The MBS analyst.

MR. CHHATRE: Okay. I've got a suggestion. You're using the first name like Jim and Tim and you better use the last names sometime because -- so it's clear.

MR. GOESON: That was Jim, the MBS analyst, correct?

MR. CHUBB: Yes.

MR. GOESON: Jim Knudson.

MR. CHUBB: That's who I was talking to. That's who was on that night for the MBS.

MR. CHHATRE: I'm okay with that, but the transcriber needs to know the last names.

BY MR. NICHOLSON:

Q. Okay. So in this case, you said everything was okay. He expected it to fill in.

A. Yeah.
Q. So there was no further research for you to do then.
A. No, no, not at that point.
Q. And at the same time, Aaron got back to you with his calcs --
A. Yeah.
Q. -- on the fill in, telling you, you should expect it in another possibly 22 minutes?
A. Yes.
Q. Going back to your transcripts, on page 22, there's a discussion where you talk about -- you mention the MBS analyst, Jim Knudson coming over to you and he made a comment I think, something to the effect of you didn't tell me Niles was bypassed, right? So I'm wondering does the MBS analyst rely on the operator to notify him of non-standard start up issues such as Niles being bypassed?
A. Okay. They -- any extra information that we can give them is helpful, but I don't know if I just assumed that he knew that or I just forgot to mention it but, yeah, he came back and said, oh, he came in and looked at my displays and said, oh, you're bypassing Niles and then he went back and looked at things and everything as far as I knew from his end was good.
Q. Well, how do you know Niles was bypassed? How are you communicated to?
A. That was on a shift change I was told about it because

the pigs were just upstream. They were within -- normally a half an hour ahead of time we bypass the station, to get the pigs through. So Dave had already bypassed the station in expectation of the pigs being there roughly within a half an hour of my start up.

Q. Wouldn't the MBS analyst be having their own pass down --

A. I don't --

Q. -- transferring similar information?

A. I don't know what they do.

Q. So it's not something -- you don't know by procedure and training that you're supposed to run over to the -- or call up the analysts and say, hey, by the way, I've got a station our --

A. As far as I know, we don't have to.

Q. Okay.

A. But the more information we can give them, the better, the better they can do their job.

Q. Okay. Page 22 of your transcript, I think this is a quote, "You cannot just knock off all your pumps." You're talking about a shutdown. I think you're talking specifically about you were probably asked how you shut down the line, and I just wanted to ask, why do you make that comment? "You cannot just knock off all your pumps." Why do you say that about a shutdown? Can you clarify for me?

A. I'm just trying to find this here first so I can read

it.

Q. Lines 16 through 22 on page 23.

A. Am I looking at the wrong page here?

Q. It's 23.

A. Page 23, 16 to 17. I'm talking about the Niles station being isolated.

Q. The question I have on -- I believe our pages are off.

A. Okay. Because that's -- I'm not seeing what you're talking about.

Q. This is my 23. At the very bottom. I've got two pages per sheet, so --

A. Okay. From that, there's some times where you can't just knock off all your pumps because you're worried about pressures. There are some times where you'll knock off pumps and you'll have to wait, it's usually not that long, but at least wait for that drop to come through to the next station before you drop off your pumps. Sometimes if you just drop all your pumps in high pressures, you're actually going to cause a high pressure situation. So you're actually doing more damage to the piping than if you knocked off your pumps in a sequence instead of knocking them all off at once.

Q. You're talking about transients --

A. Yes.

Q. -- or surges, spikes?

A. Yes.

Q. Okay. Is there a procedure for how you do that?
A. No.
Q. You're just trained?
A. I'm just monitoring my pressures and trying not to get elevated pressures during my shutdown.
Q. Okay. So you're just working against your alarm limits basically?
A. Yes.
Q. Okay. On my page 24, you talk about shutting down the line, you made a -- after shutting down the line, you made a statement. So basically the shift leads took over and they did talk to me a bit, and I think that's after your 22 minutes.
A. Okay.
Q. Right, and you were finally told to shut the line down. I was curious at that time, and it doesn't sound like the shift leads did much interfacing with you, and I wanted to know what were they talking about specifically in that timeframe?
A. They would have talked to me a bit but because I was busy, I'm operating three other lines and another tank farm, they had gone up to the shift lead's desk at the front of the room to discuss this so that I could continue operating the other lines that I had to deal with while 6B was shutdown.
Q. What kind of questions were they asking you? What's the pressure like at Marshall? Hey, Tim, what kind of volumes are you running? Hey, Tim, can you look at a trend? What --

A. No, I didn't look at any trends and most of the time during the start up, Aaron was either sitting with me or in the area. So he would have known what the pressures were doing because when I originally called them over, first he came and sat with me and started looking as we were approaching the 10 minute before he started doing the other stuff. So they -- and plus they also have displays that they can pull up at the front and trends. They can pull up all the trends, too. So I don't know exactly what they were doing because I wasn't there, but those are the types of things that I expect they were looking at.

Q. Is the expectation, when the shift lead takes something like this from you, is the expectation from you that they're going to handle it, that they're the experts?

A. I'm expecting them to -- yeah, they know as much or more than I do and that they might buy looking at it, they'll have or even a different perspective instead of me. I've already looked at it. I didn't know exactly what was happening. Maybe somebody else's perspective will show something that I didn't see.

Q. Okay.

A. So that's the kind of stuff that I'm expecting.

Q. That's an accurate statement in this case, that you had looked at it, you had researched it as much as you felt you should research it?

A. At the time, yes. Now I probably -- well, there's other things I could have looked at that I didn't that I didn't think of

at that time.

Q. Okay. Well, I'm going to go with that for now because that's an interesting statement. So what other things should you have looked at do you think --

A. Should have?

Q. -- in hindsight? Yeah.

A. Or could have.

Q. Should have and could have.

A. Okay. To me, those are different.

Q. Go ahead and define the difference.

A. There are other things that I could have looked at. The pressure trends and other -- especially the pressure trends for my start up. I could have gone back and looked at the shutdown pressures. I didn't have the time to do that. I'm operating other lines. So that's where I'm going with the could have. The should have, I think at that time I had done what I could with my workload and stuff. If I had other time, or -- if I had other time or nothing else happening, yes, there are other things that I could have done.

Q. Okay. So you were overloaded at -- I mean you just couldn't put the time into researching this issue is what it sounds like to me.

A. That's -- yeah, that sounds good.

Q. That you feel like if you had had the time, you knew where to go.

A. If I had time, yeah, there's other things that I definitely could have looked at, yes.

Q. And you think by seeing the trend on shutdown would have been which would have been this, you think that would have stood out to you showing you --

A. That would have, yes.

Q. -- here would have been a real communication.

A. Yes.

Q. And when you were looking at trends, you were looking at a window kind of -- this is actually the 25th, but you're looking at maybe a smaller portion.

A. Yes.

Q. And when you see 0 pressure, that's not a leak trigger to you? That's not an abnormal condition?

A. Okay. What am I -- I have had other start ups on 6B, not at Marshall, where I have had no pressure and have started up and filled in the column and everything worked out.

Q. Okay.

A. Yeah. No, I have had other start ups where I've had no pressure and columns filled in and everything was just fine.

Q. On 6B?

A. On 6B.

Q. And I'm going to ask you to tell me, where that would be on 6B?

A. Normally down near Howell.

Q. Yeah.
A. Yes.
Q. Okay. Where it's very steep.
A. Yes.
Q. The elevation --
A. Yes.
Q. -- drop off. Okay. So -- but you believe that if you would have expanded this window and captured this --
A. If I would have looked at the shutdown at -- I probably -- it would have made me question things more.
Q. Okay. So if 0 was not a leak trigger, this differential would have been a leak trigger for you? Where would you --
A. Not, not so much a leak -- I don't want to say a leak trigger, that I would have looked at it and saw it was a leak. It would have been -- Gateway had this big decrease in pressure. Why?
Q. Okay.
A. And then would have looked into it further that way.
Q. Where would you have gone? I'm just trying to figure out where else you would have --
A. Well, I would have seen what --
Q. -- is there a procedure or --
A. No, I would have seen what time it happened. I would have had other people look at it and say, look, this looks suspicious.

Q. Okay.
A. What do you think?
Q. Who would you have gone to with this information?
A. Probably the shift leads again and there are other people on shift that I would have went to, or could have gone to.
Q. Okay. Who are the shift leads?
A. That night? Aaron and Darin.
MR. CHHATRE: And are they considered the shutoff, the proper term, like technical people or they're like (indiscernible) people, the supervisors or --
MR. CHUBB: Yeah, they're not -- we don't have anybody that's designated as a technical person. They are people people -- people persons.
UNIDENTIFIED SPEAKER: People eaters.
MR. CHUBB: There we go.
MR. CHHATRE: So they have no technical background I guess is what I'm trying to understand.
MR. CHUBB: They were both operators that have worked in that room before. So I -- and they've -- they both have more experience than I do. So I would -- I'm going to assume that they would know as much or more than I do.
MR. CHHATRE: Technical people?
MR. CHUBB: Yes.
MR. CHHATRE: Thank you.
BY MR. NICHOLSON:

Q. So them coming back to you and saying, Tim, we see 0 pressure at Marshall. Is that normal? You wouldn't have been able to offer anything more to that conversation because you had already looked at it?

A. Yeah, at that time, I didn't -- I just figured we needed to get more pressure through there and with the, and with the station, with the bypassed station, I was expecting to have a harder time getting pressure there. At the time, it didn't seem unusual.

Q. Well, what you just described is really the scenario that was put out by Jim and Darin, right? Or is that -- did you come to that conclusion on your own?

A. No, I, I had thought of that.

Q. Okay.

A. Yeah.

Q. Okay. So it sounds like you were in the same thinking mode that everyone else was.

A. Yeah.

Q. Then my next question, on my page 27 of your transcripts and that's basically when you were asked to restart the line again, I think it takes two hours for them to arrive at that decision. Did you agree with that decision?

A. Yes.

Q. Okay. Can you disagree with the shift lead's decision?

A. Oh, for sure.

Q. Have you?
A. Sorry.
Q. Have you ever?
A. Have I ever? I can't think of a specific, specific incident.
Q. So planning to restart the line made sense from your experience --
A. Yes.
Q. -- from what you had seen?
A. I've had other start ups where we've started up, got to the 10-minute rule, shut down, reevaluated the numbers, started up again and as we started up the second time, the column fills in, everything's fine.
Q. But the difference in this instance was that you went 10 minutes, you went 22 minutes conceivably then shut down --
A. Yes.
Q. -- right?
A. Yes.
Q. This one was a little different maybe --
A. Yes.
Q. -- in that sense, that you had already kind of done two runs in that you had extended it. You doubled the time, correct?
A. (No audible response.)
Q. So did you ever question the volumes that you had put in the line and where they had gone?

A. Yeah, I had talked to my Griffith operator just to see how much we had pumped.

Q. Okay. That's on the --

A. The injected, yes. Yeah.

Q. Okay. You had a discussion then with Jim and Aaron or Jim and Darin come talked to you about getting 320 psi at Mendon?

A. I believe it was Aaron came back and he had done some calculations and that we needed 320 sounds about right for discharge pressure before we would see an increase into Mendon. Is that -- am I mixed up --

MR. GOESON: Is that leaving Mendon that the discharge pressure had --

UNIDENTIFIED SPEAKER: Right.

BY MR. NICHOLSON:

Q. Is it leaving Mendon?

MR. GOESON: It would almost have to be with Niles.

MR. CHUBB: Okay. I'm just -- I don't have a line display in front of me.

BY MR. NICHOLSON:

Q. Well, if it's into Mendon or leaving Mendon. I'm assuming it's leaving Mendon.

A. Okay.

MR. GOESON: It wouldn't be coming in.

MR. CHUBB: Okay.

BY MR. NICHOLSON:

Q. Okay. But you didn't question that. That seemed viable. You thought you could possibly get there --

A. Yeah.

Q. -- based on past experience?

UNIDENTIFIED SPEAKER: So the discharge pressure that was suggested for Mendon --

MR. CHUBB: Yes.

UNIDENTIFIED SPEAKER: -- was what we -- what they felt you needed to get to, to start seeing something in Marshall?

MR. CHUBB: Yes, to see pressure downstream. Just see an increase downstream, yes.

BY MR. NICHOLSON:

Q. So your response, you weren't amazed to hear that you were going to start the line up then. That didn't seem --

A. No.

Q. Did anyone ever react? Was anyone surprised by that decision that you talked to?

A. At that time, no.

Q. Everyone seemed to buy into that explanation. Okay. You might not know this, but I'll ask. If it took two hours for the shift leads to get back to you, after looking at the information from start up, is that typical that they would take two hours to analyze? It seems like a fairly finite amount of information.

A. I wouldn't say it was typical. I really -- I don't

remember how long other situations have taken to go through information, to get a better handle on it, but two hours seemed -- that they had been going over the information for two hours. So after two hours, if they came back with an answer, it sounded, it sounded good to me that they had actually -- they didn't come back in 10 minutes and say, okay, I'm ready to go.

Q. Yeah.

A. They had spent, they had spent a significant amount of time looking into the data.

Q. So during that time, with 6B being down --

A. Yes.

Q. -- you were running like three?

A. Three, six. I don't remember --

Q. Six.

A. -- what was happening that night, but we definitely had underlying --

Q. Probably time moved along pretty quickly?

A. Pretty quick, yeah, and then in the morning, we have -- there were crews out doing their work. So as soon as those phone calls started in the morning, probably around 3:30 to shift change, you're busy because you're trying to attend to your lines and your answering phone calls, multiple, multiple phone calls. It's a really busy time of the day. I tried to get my 3:00 track done and then once that's done, usually I'm busy until my relief shows up.

Q. And I was curious, too, there are explanations that they didn't have no pump power to get out from the port to Mendon I guess, right? Is that -- wouldn't you have -- could you have pulled some pump trends or looked at the pump performance to see, and essentially they're saying they were deadheading their pumps at port. Is that a thought? They just couldn't achieve enough pressure. Could they have looked at power curves or --

A. It's not something that would typically be done.

Q. You wouldn't go into that kind of --

A. No.

Q. Okay.

A. No, we have pumps that we typically use and with one station being bypassed, I wasn't able to produce horsepower there. So you look upstream to try to gain some more so that you can push through the station.

Q. Do you always start your largest pump first or your smallest pump?

A. Not always, no. It just depends on the profile or the rate that you're trying to achieve. Sometimes there's different rates, and sometimes it just depends which pumps are available. Sometimes pumps are out for maintenance --

Q. Right.

A. -- or repair, whatever.

Q. And with the com out, what rate were you trying to achieve?

A. I don't remember.
Q. How's that dictated?
A. It comes off our pump orders.
Q. Okay. So you would have started to that.
A. Yes.
Q. The com out wouldn't have meant that you started at a minimum low.
A. Yeah, you -- we can do that, too. I probably would have had my com out limits in and -- okay. The first time I probably did try to start up slower. After the unsuccessful start up, we were just trying to get pressure through the area there and with that com out valve being so far downstream, I would have had lots of time to adjust once I got the line up and flowing through the tops action, to adjust for whatever was going to happen downstream.
Q. Okay. All right. So you wouldn't go into that level of detailed research on performance --
A. No.
Q. -- at this time?
A. No.
Q. You're not even sure if that would have told you?
A. I know that we have all the pump curves and stuff. They are available to look at.
Q. They are.
A. I don't --

Q. On SCADA? I mean electronically or --

A. No, I would be pulling out a binder to look at pump curves. That's not something I -- I think I did it while I was training just to know that they're there and probably never looked at them again.

Q. I want to go to, if I can find them, the control center transcripts. These are the phone transcripts from that evening, and these were transcribed. These are calls that were made to the control center, and you're in some of these, Tim, but in a lot of these cases, people has been identified as speaker 1, speaker 2.

A. Okay.

Q. So I'm going to ask that maybe you go through some of these and help me identify who you might have been talking to.

A. Okay.

Q. And there's just a couple of pages here.

MR. NICHOLSON: And actually, do we have another set of these, Ravindra. Did I give you a set?

MR. CHHATRE: In my binder, yes, I do have a set.

MR. NICHOLSON: Because I'd like to be able to have a set. All right.

BY MR. NICHOLSON:

Q. Well, I'll just hand you this.

MR. CHHATRE: Do you want to use the mark up from yesterday?

MR. NICHOLSON: I did, but that just means I've got to

walk over to Tim.

BY MR. NICHOLSON:

Q. The first one, Tim, is at 4:08. I printed everything double sided. Actually I think it's 1:04. This is Dave here. So this is you I'm guessing. Chubber. Okay. So is this -- speaker 1, who is speaker 1 and who is speaker 2 in this conversation? Can you just -- as a matter of fact, can you just actually write, I mean you don't have to do all of them. If you could just identify the first --

A. This is probably, probably Darin, Darin and myself speaking here.

Q. Okay. So Darin is speaker 1?

A. How does this work? Okay. I'm speaker 2, so that must mean Darin's speaker 1.

Q. Yeah, if you could put initials or -- okay. Perfect. Then that's you basically calling up your shift lead --

A. Yes.

Q. -- and explaining that you've got com outs out valve 632. Okay. And then this next conversation that takes place at 1:23, this must be your nickname. Is that you? Are you speaker 1 or are you speaker --

A. Yeah, I must be 2 again.

Q. Okay. And who are you speaking to there? This is a conversation, just for the record, where you're explaining, you've hit your 10-minute mark and you're still not building pressure,

and it continues on over here.

A. I don't -- I can't say, but just because he called me Chubber again, I'm assuming it's Darin.

Q. Okay.

A. But I -- it's either Darin or Aaron. I don't know who I'm talking to there.

Q. Okay. So can we just put a D/A there. So we're pretty sure it's a shift lead.

A. That's -- I'm guessing it's either Darin or Aaron --

Q. Okay.

A. -- that I'm speaking to, yes.

Q. Put a D/A there. I'll know that means. Okay. That's our 10 minute -- and I think this might also be you then, right, at 2:00. I think this is when you decide to restart.

A. Okay.

Q. I'm sorry. This is when I think you're shutting down, right?

MS. BUTLER: I'm sorry, Matt. What time is this call that you're asking about?

MR. NICHOLSON: I'm looking at the 2:00 a.m. call on 7/26. It's on page 6 of my control room transcripts. It starts out, speaker 1 says, "You're there, A, shut her down." And then they decide to give it another minute."

BY MR. NICHOLSON:

Q. Or is that you at all?

A. I don't know. It just doesn't -- reading through it, it doesn't make sense here right now.

Q. Shut her down, Chub.

A. Yeah. I'm trying to remember when this -- what was the timeframe on this?

Q. This -- they just tell you when it starts. So we're looking at 2:00 a.m. You know, you had talked at 1:23 --

A. Yeah, it must -- and who I'm talking to, again I don't know. It's probably Darin or Aaron.

Q. Okay. Let's just make a note of that. And I've got an idea that maybe it's a shift lead versus a mass balance analyst.

A. Yeah. No, it's not, not those guys.

Q. Okay. Let's see. And I think that is it. And then we've got -- there's a conversation there with Blaine and Darin and Jim. I wanted to ask. There's one more. So at 4:08 now, I think this is when you're getting ready to start it back up, and I see, "Yes, Tim." Is that speaker 1 someone you're calling?

A. No, that's me, yes, it's --

Q. That's you answering the phone?

A. I think that's, yeah. That's what it looks like to me, that I'm probably speaker 1 here.

Q. You're speaker 1.

A. I think so.

Q. Because speaker 2 says, so can I get you to open up but keep your something high? That would make sense. Yeah, can you

read through that?

A. Okay. This might be Darcy.

Q. Darcy is who?

A. Sarnia.

Q. Okay. And Darcy would be speaker 2?

A. I think so. Yeah, it's definitely not shift leads.

Q. Okay.

A. Yeah, I think that's probably Sarnia.

Q. So I just notice in this conversation that Sarnia is saying to you, hey, I guess we're going to give this another try here, right?

A. Yep.

Q. But wouldn't you notify Sarnia that you're giving it another try? Wouldn't that be one of the first calls you make on start up?

A. He's closer to the shift leads. The shift leads might have stopped and talked to him because I'm at the back of the room, right.

Q. Okay.

A. Sarnia is probably the second closest desk to the shift leads.

Q. Okay. So that wouldn't be unusual then. And then if you're speaker 1, I'm curious about this. I'm going to put you on the spot here. You say, yeah, okay. "Are you actually serious?" Someone in this conversation seems a little surprised --

A. Okay. No, that's not me. That's -- we must have them backwards here. Actually I think Darcy must be speaker 1. I must be speaker 2.

Q. So Darcy -- your name pops up on her phone.

A. We have a 4-digit extension. So my 4-digit extension would have showed up on his and so he -- and knowing that he had talked to her, we're on the same shift, it's coming from my console, he's probably assuming or knows that --

Q. Okay.

A. -- it's me that's calling.

Q. Okay. So if you could write that. So Darcy then is speaker 1 you think.

A. Yeah, I think that's --

Q. You don't have any recollection of these conversations?

A. No, not, not at all.

Q. Darcy is a male.

A. Yeah.

Q. Okay. And if you could put your initials, you're speaker 2, right. So then I am curious about you don't remember anyone making this comment.

A. No.

Q. "You're actually serious." Okay.

A. No.

Q. Okay. All right. That helps a lot. Thank you. I guess I'll keep going here then. This conversation at 4:11, I see

Ken. Who's Ken actually? I haven't heard of Ken. We are fully open.

A. Anybody out on a line working on a dig.

Q. Okay.

A. It doesn't even have to be an Enbridge guy. It could be any --

Q. Okay.

A. -- lawn tractors. It could be anybody.

Q. But he's talking to you.

A. Maybe.

Q. Okay.

UNIDENTIFIED SPEAKER: What's the context? What's Ken saying?

MR. CHUBB: Okay. That doesn't make sense withholding 180 --

BY MR. NICHOLSON:

Q. We're fully open, holding 180.

UNIDENTIFIED SPEAKER: It sounds like a holding pressure or something.

MR. CHUBB: But there's no Ken down there.

UNIDENTIFIED SPEAKER: You mean at Sarnia or at --

MR. CHUBB: Working that desk.

UNIDENTIFIED SPEAKER: -- the console.

MR. CHUBB: Yeah, working that desk, there's no Ken that works down there.

UNIDENTIFIED SPEAKER: It wouldn't be someone from the actual terminal itself?

UNIDENTIFIED SPEAKER: I don't know the context. Can I --

MR. CHUBB: Yeah, sure.

UNIDENTIFIED SPEAKER: Yeah, let's try to clear it up for them.

MR. CHUBB: I don't think I --

UNIDENTIFIED SPEAKER: Would that be the person that you're delivering to at Marysville, whoever is receiving it?

MR. GOESON: That's Ron Cook and Greg Pezarotti (ph.). So --

UNIDENTIFIED SPEAKER: Okay. Maybe --

MR. CHUBB: I don't have a clue.

MR. GOESON: That sounds like it's a conversation between the pipeline operator and the terminal operator across from Darcy.

MR. CHUBB: Okay.

BY MR. NICHOLSON:

Q. Is that a conversation you had with Darcy?

A. Possibly, but the Ken doesn't --

MR. GOESON: So Ken, could it maybe be C A N. I didn't read it but are they asking you --

MR. CHUBB: Okay. Would that make more sense? Can you do this instead of Ken.

UNIDENTIFIED SPEAKER: It says, howdy, Ken.

MR. NICHOLSON: Yeah.

UNIDENTIFIED SPEAKER: I'm not sure that's right.

MS. BUTLER: Matt --

MR. NICHOLSON: Yes.

MS. BUTLER: -- would it be possible starting at the 4:08 one where we had a conversation as well as this, would it be possible for us to submit the request specifically back to Enbridge to identify who's speaking.

MR. NICHOLSON: Yeah, that's what I was getting at, too. I --

MS. BUTLER: I think we're being a bit unfair to our interviewee here, in that they have voice recordings, you know, and they'll probably recognize voices over just these speaker notes.

MR. NICHOLSON: Okay. Let's do that. We actually covered the ones I wanted to cover anyhow. So these --

MS. BUTLER: And he may not have been speaker 2 on 4:08, and I just don't want us to head down that pathway of not knowing for sure, okay.

MR. GOESON: So the IR would be for us to identify --

MR. NICHOLSON: Yes, please go through and identify.

MS. BUTLER: Yeah, and actually it would be helpful if you would that. We'll put that request on our end on all of the wav files because we've got the transcripts and the wav files. So

we've got voice recordings, but speaker 1 and speaker 2, we can't recognize the voices where I'm sure you all could.

MR. NICHOLSON: Okay. Yeah, it you could make that an IR request.

MR. GOESON: Yes, I've got that one.

BY MR. NICHOLSON:

Q. Now back to, in your transcripts, on my page 34, you mentioned your lines, your phone lines were ringing off the hook with field personnel asking about the status of line 6B, but those calls I don't see in these call records here, and this might be a question for Curt or Jay. Is there a reason that those calls don't show up?

MR. GOESON: For which? Sorry.

UNIDENTIFIED SPEAKER: When a maintenance crew would call in, would they not be recorded?

MR. GOESON: Calls from the field? Yes, they'd be recorded.

BY MR. NICHOLSON:

Q. And they come in, Tim, they come into an operator?

UNIDENTIFIED SPEAKER: Yeah.

MR. NICHOLSON: Okay.

UNIDENTIFIED SPEAKER: Yeah.

MR. NICHOLSON: And they're recorded.

UNIDENTIFIED SPEAKER: Absolutely. All incoming and outgoing calls are recorded.

MR. NICHOLSON: I didn't see them in these transcripts. So --

UNIDENTIFIED SPEAKER: Yeah, there are wav files that aren't in the transcripts because I heard a lot of that when I was looking at --

UNIDENTIFIED SPEAKER: And I don't have wav files. That's the only thing I have. So --

UNIDENTIFIED SPEAKER: Another request is we -- it appears we don't have I'll say the maintenance calls coming into the 6B console or is there even more, Brian?

MR. PIERZINA: Well, I've heard a lot of recordings. I know, you know, like prior to the second start up, Tim was making a lot of calls say, hey, you know, we've got to get you off the line because we're going to restart and all that stuff. There's a -- there's calls coming in and there's actually a female voice answering calls at the control center that I don't know who that would have been.

MR. CHUBB: And that would be Ghazal, my shift lead or my shift partner. When the calls come in, if there's that many, I'm trying to answer as many as I can because they are directed to me. Any that I can't answer, roll over to her. So she'll help me out and take some of the calls.

MR. PIERZINA: So I think that as far as the IR goes, I think what we need to do is identify the individuals on the wav files as well as the transcriptions and there's -- they don't

match one for one. There are more wav files than there are phone calls in the transcript and it seems to me that we're missing a few calls as well either or.

MS. BUTLER: Yeah, so if we could, you know, just research when we're doing that, we're matching those days, you can have them make sure that we have all the calls.

MR. GOESON: Yes, I'll do that. I've got that down.

MS. BUTLER: Okay. Thanks.

BY MR. NICHOLSON:

Q. I want to revisit another statement. On my page 35 of the transcripts, you said that the only thing that wasn't normal about start up was the lack of pressure downstream. The fact that you say it wasn't normal, that makes me think you recognized that there was an abnormal operative condition, and I guess I'm asking you to comment on that. Would that have been a lead trigger to you?

A. At the time obviously it wasn't.

Q. Is there any penalty for not starting the line back up right away?

A. Penalty to me?

Q. Management -- yeah.

A. Not that I know of.

Q. You don't feel pressured to get --

A. Well, you always want the lines up and running, but there's times where there's things that happen and lines get shut

down.

Q. Okay. So you don't feel pressured to restart?

A. Well, you try to keep the lines running and you try to get them up and running but there's some instances where you just can't.

Q. I touched on this already but I'm going to ask it again. On the second start up, your Marshall reading went from 0 to 4 psi on the discharge pressure, right?

A. There -- yeah, there was a small increase but I don't know what the numbers were.

Q. And at the time, your explanation was still column separation?

A. Yes.

Q. Okay. That you couldn't fill that line in.

A. Yes.

Q. But that never caused you to look deeper into the pumps and where they might be operating on their curves?

A. I wouldn't.

Q. And you wouldn't pull up power draw analysis, another kind of indirect --

A. There's a power display right on our line. So I wouldn't have no need to pull up a separate display unless my power draw was high and I was trying to get another unit on. Then I might look into the units just to see what units I would run and keep under my power allowables.

Q. Okay. That's your only limit is your power allowable? You can run the pumps wide open if you have to?

A. Yeah.

Q. As long as you don't exceed that power draw?

A. That or whatever my discharge pressure limits are for the station.

Q. Can you go up to 100 percent throttle?

A. Some of them go over 100 percent. You're talking the VFD?

Q. VFD.

A. I don't have VFDs on that line --

Q. Okay.

A. -- but I do have other lines where VFDs, with VFDs on them.

Q. So these are all constant speed pumps?

A. Yes.

Q. Okay.

UNIDENTIFIED SPEAKER: So when you talk about your --

MR. CHUBB: I guess only, Stockbridge does have a VFD pump but we were nowhere near there. The rest of the pumps are non-VFDs.

BY MR. NICHOLSON:

Q. And that was down --

A. Yes.

Q. -- at the time.

A. Yes.

UNIDENTIFIED SPEAKER: So when you talk about your power levels, that has to do with energy management, when you have limits of how much you can use, time of day changes?

MR. CHUBB: Yes. At each station, we are -- that's -- our limitation is our power allowable which can be measured for horsepower or kilowatts, but that's -- the power group sends in those limits and we -- that's what we deal with.

UNIDENTIFIED SPEAKER: So I just want to make -- that's what they're looking at there from an energy consumption standpoint?

MR. NICHOLSON: I'm aware of that actually.

UNIDENTIFIED SPEAKER: Okay.

MR. NICHOLSON: I think it was covered pretty well --

UNIDENTIFIED SPEAKER: All right.

MR. NICHOLSON: -- on the first interview.

BY MR. NICHOLSON:

Q. All right. Maybe we should either take a break or pass this around. Are you good, Tim?

A. I'll go for five minutes.

Q. Okay.

MR. NICHOLSON: Is that okay with everyone? Do you want to take a break? I'm just looking at how much I want to go through. So -- Karen, are you good with that?

MS. BUTLER: What? Taking a break?

MR. NICHOLSON: Yeah.

MS. BUTLER: Yeah, sure.

MR. NICHOLSON: Okay. Let's take 10 and we'll come back.

MS. BUTLER: Okay. Thanks.

(Off the record.)

(On the record.)

MR. NICHOLSON: And we'll pick up again with Tim Chubb, and I guess I'll just continue. I've got about seven pages of questions.

BY MR. NICHOLSON:

Q. I want to go back a little bit and ask you about the LPM system. I've seen -- I want to go through some of the console alarms and commands. There's one that comes up LPM alarm. Can you just talk to me a little bit about the LPM? What is LPM? What does it mean when you get a LPM invalid pressure alarm?

A. I can't remember what the acronym stands for. It's our pressure monitoring system. A low pressure, invalid pressure, it's looking at the numbers and the number's too low for it to -- for the system to recognize I guess.

Q. Okay.

A. And, yeah, I don't even remember --

MR. CHUBB: What is LPM stand for?

MR. GOESON: Line pressure monitor.

MR. CHUBB: Line pressure. Okay. I knew it was

pressure, like I said, pressure monitor.

BY MR. NICHOLSON:

Q. Okay. What would you do if you got an invalid pressure on that, which I see comes in as a S6 --

A. Okay.

Q. -- what would be the typical response in your experience? What would you do with something?

A. First check and see if the alarm is valid. I might just have a pressure monitor that's not reading properly, and especially on the suction side, it reads the low pressure monitor. So if I had multiples, you would look at them and see -- it depends how many monitors you have there. If you have three, if two of them are close, and one of them is off, I would assume that the one that wasn't reading --

Q. What do you call monitors? Transducers, your case discharge section.

A. The actual pressure transmitters, yes.

Q. Okay.

A. Yeah.

Q. And you said there's three of them?

A. I said if there was.

Q. Okay.

A. I don't know, I don't know without looking at a schematic.

Q. Okay.

A. I couldn't tell you how many there were there.
Q. All right.
A. If there was -- if it was a station where I had three and two were reading very close and the other one wasn't --
Q. Oh, I see.
A. -- then I would assume that it was a bad --
Q. You're just validating one transmitter over the other two?
A. Yes.
Q. Okay.
A. Yes. Because on the suction side, it always reads the low number I believe. So if you had one that was out, that was reading a low number, the other two looked just fine, I would go with the two that looked good and say that it was a bad value off the other transmitter.
Q. So if it's a valid LPM, invalid pressure --
A. Well, yeah.
Q. -- then you would -- is that a leak trigger?
A. No.
Q. Would you notify a shift lead on a S6 priority here?
A. It's a high priority but if I could look and rationalize what was happening there, then no. It would be depending -- it could be a call out for somebody to go into the station and check it out.
Q. Call out or a facman. Which?

A. You'd probably -- you could put in a facman for it, too, yes.

Q. There's another alarm that comes in, low suction pressure alarm at a station that results in a station shutdown or sequence off. What -- I see that come in as a S4. What would be kind of a typical -- is that a leak trigger? How would you react to that?

A. It could be but once again, I'd have to look and see because I believe on the suction side, that it reads the lowest one. So if I had transmitters that were out, then, yes, it could be causing it. With that alert that you described, low suction, it's saying that you don't have enough suction pressure there to run a unit. So I wouldn't be able to run a unit there until I got more pressure there, and if it was a station that I needed a unit to run, then -- and that has happened. I've had bad transmitters reading on the low side on suction, and I can't even run a unit there even though the other transmitters read that I have lots of pressure there, but because the one transmitter, I'm not able to run a pump there. You have to call somebody out to take that, to either replace it or take that transmitter out of service so that you are able to run.

Q. Okay. If you got a low suction alarm, it's typical that you'd also see a LPM invalid pressure alarm?

A. You could, yeah.

Q. Would that -- they go hand-in-hand, right?

A. I would assume so. I can't say for sure. I don't --

Q. Would you -- if you had a low suction pressure alarm here, would you also then have -- expect to see that call set indicator?

A. If it was a valid alarm, yes.

Q. Okay. So you've said on its own, low suction pressure might not be a leak trigger.

A. Okay. Not necessarily. When we're looking for leak triggers, usually we're looking for multiple. It could be one. It could be a leak trigger, but like I said, if I can verify other transmitters, then, no, it wouldn't.

Q. Then a low suction pressure followed by a 5-minute MBS, would that change things? Would that be truly a trigger event at that point?

A. It could be, yeah. MBS alarms, we can get them with absolutely nothing being wrong from the operational side as far as I can see. It could be a transmitter that's turned off in the MBS model. The MBS model might not be working. But, yeah, it could be.

Q. Okay. I want to move onto the passdown between I think it was Greg Poulan (ph.) --

A. Poulan.

Q. -- Poulan that comes in to replace you. There was a passdown between you two, and I'm just -- I think in your, your transcripts, your earlier testimony, you said that you explained

the whole start up, the failed start up, the two start ups, right?

A. Yeah.

Q. And I think you also went on to explain, you know, what, what you guys believed the issue was or not enough pump pressure (indiscernible) and the drain up I guess. You know, I was just curious. What was Greg's reaction to all this? What did he say or what transpired?

A. When I talked to him for the, for the changeover there, it wasn't certain what was going to happen. The shift leads were still dealing with everything. We were still -- we were over shift change. We were going to wait to see what was going to happen. He did ask, I think, I don't know, I think he might have asked me if we were looking into a leak, and I don't even remember what my answer would have been. We were over shift change. We had a new set of eyes coming in to look at the problem.

Q. Did he -- I'm just wondering. Did he question your explanation as you were giving it to him about the pumps?

A. Not that I remember.

Q. Okay. Did, did you start to rethink your explanation when you were actually trying to explain to someone else or did it still make sense to you at the time?

A. At the time, from what I remember, it was still the same thing.

Q. Okay. Well, it still made sense to you is my question. You weren't --

A. Well, no, I started to question it because we had a second start up. I've had start ups before, like I said, where we started up once. We were unsuccessful. The second time we started up, everything was good. This time I had had two unsuccessful start ups. So, yes, now I started to question things.

Q. Okay. From your transcripts, it also sounds like column separation is the most common explanation for a MBS alarm. Is that true? Is that typically --

A. The most common, I'd say yes.

Q. Okay. I don't know if I asked this already. Is a leak a valid explanation of a column separation? Does that meet the definition?

A. Yes.

Q. Okay. It would still fall under that. I'm just curious. Have you ever supervised a trainee? Have you been responsible for --

A. I've had trainee -- I've never had a trainee assigned to me, but I have had days where I came in and there was a trainee and they sat with me, yes.

Q. Just for the day?

A. For the day, yeah. Either their mentor wasn't there or --

Q. Oh, okay.

A. -- for whatever reason, and they sat with me for a shift

or two, whatever it was, not -- but not an extended period of time.

Q. And in that role, they were observing you. Is that what they were doing?

A. Yeah.

Q. Or were they operating the line and you observing them? How did that work?

A. For sure they were observing. Whether or not they -- I don't know if they did any operating or not. I can't think of, I can't think of a specific time.

Q. These would be non-qualified individuals?

A. Yes.

Q. Okay. And your best recollection is that they would be observing your actions?

A. For sure, yeah.

Q. And you'd be talking them through.

A. Telling them what I was doing and -- yeah.

Q. Okay.

A. Asking them what I would -- what they might expect if I was changing pumps or depending on what the maneuver was.

Q. Can you talk to me a little bit about alarm priorities? We talked a little about the S6s.

A. Yes.

Q. What are the other priorities?

A. Well, 6 is a higher priority. There's definitely lower,

and there are higher priority alarms.

Q. As 2 being the lowest?

A. Lower. Well, I think there might even be a 0.

Q. Oh, really. Okay.

A. But I'm not -- for sure there's 2s. I thought I may have seen a 0 before.

Q. Okay. And S2s look like they're just mostly notifications.

A. Yes.

Q. There's no action required as far as I can tell.

A. Probably not. I can't think of specific alarms.

Q. Okay. What about S4s?

A. It's more severe.

Q. Okay. But not -- where does that lead you? Do you have to notify a shift lead on a S4?

A. No.

Q. Okay. S6?

A. It depends on what -- I don't always look at the severity, the S2, S4, S6, S8. They're color coded. So I go more off the color or what the actual alarm says --

Q. Okay.

A. -- because they'll come up with text and depending what the text says on that alarm.

Q. But the S6 would be a different color than the S4 --

A. Yes.

Q. -- or the S2.
A. Yes.
Q. Depending on the severity.
A. Yes.
Q. Okay. So you're just more used to seeing the colors.
A. I go more off of the colors than the severity number, yes.
Q. So what is a S6 colorwise? Do you know?
A. Not right off. I'm -- no, I'd be guessing.
Q. Okay. Who sets the alarm priorities? Do you know?
A. No.
Q. It's not you.
A. No.
Q. It's not shift leads?
A. Not that I know of.
Q. Are priorities --
A. I think it's a SCADA thing.
Q. SCADA program. Would that be Les?
UNIDENTIFIED SPEAKER: Les is a SCADA fellow, yeah.
BY MR. NICHOLSON:
Q. And going back to this LPM and low pressure alarms, are those common to see on start up or shutdown? I'm not sure I asked you.
A. There are certain sections on certain lines where you do see them. Those are areas that drain off. So the way your

question was, depending on what area I'm in, yes, but there's --

Q. I'm sorry. 6B, specifically start up, shutdown.

A. Well, definitely towards the Howell end, you'll get those.

Q. Get the LPM --

A. Yes.

Q. Okay. But not upstream.

A. Not typically.

Q. Okay. Now you mentioned before, my question is here that is it easier to see which alarms have been acknowledged and which haven't? And you made it sound like maybe there were two screens, active alarms and acknowledged alarms?

A. There's more screens than that there, yes. Typically we -- the unacknowledged display is the one that we always have up and always use.

Q. Okay.

A. There are active, historical and command alarm pages as well that I'll have up in the background that I can go check.

Q. Okay. What do you do when you encounter a situation that hasn't been covered by procedures? Is there a procedure for pretty much everything or --

A. For most things there is but, no, not -- I'm going to have to say not for everything.

Q. And what do you use for guidance in that case?

A. You find the procedure that closely matches it, see if

it will work for the situation, and get help from the shift leads.

Q. You think the procedures adequately address the risk of shutdown that are present as shutdowns, transients?

A. I'm sorry.

Q. Do you think the procedures that are in place now adequately address the risks associated with start ups and shutdowns?

A. Yeah, they cover what normally -- what happens most of the time, yeah. I don't know if you can write a procedure for unseen things that may or may not happen.

Q. You think they're written such that when you do encounter something, that --

A. Yes.

Q. -- you need, that it's pretty well caught?

A. Yeah.

Q. So then in this instance, did the procedures fail us on the 26th when you were doing start up?

A. No, not the procedures. The process.

Q. The process. What specifically in the process?

A. The procedure that was pulled up was a procedure that was -- it's not an actual procedure. It's one that might possibly be developed.

Q. Go ahead --

A. I don't know how to explain it.

Q. That's fine.

MR. GOESON: The procedure they referenced was a proposed change or proposed modification to that procedure.

MR. NICHOLSON: Oh.

MR. GOESON: It wasn't the procedure in our database, in our procedure database.

MR. NICHOLSON: That's the first I heard that.

BY MR. NICHOLSON:

Q. Proposed change to which procedure?

A. The 10-minute rule.

Q. That 10-minute rule?

A. Yes.

MR. JOHNSON: No, it was a procedure that had the 10-minute rule phrasing engrained in it.

MR. NICHOLSON: Is that the MBS alarm?

MR. JOHNSON: It could have been column set procedure. I don’t know which procedure.

MR. CHUBB: And I didn't call it up. I don't know which one it was.

BY MR. NICHOLSON:

Q. Okay. So what you're -- so if you could explain it again. You're saying it wasn't the procedures that failed.

A. The process.

Q. The process.

A. Yes. This was a procedure under review or proposed procedure that was pulled up instead of the actual existing

procedure.

Q. And how would that have happened?

A. I don't know.

Q. We're talking about the shift leads in the center.

A. The computer, at the pod (ph.) mate's computer is where the procedures are pulled up.

Q. At Ghazal's computer?

A. Yes.

Q. But Aaron pulled it up or Ghazal?

A. I don't know.

Q. Okay.

MS. BUTLER: And what was the procedure we're talking about? Was it only affecting MBS alarm review or what have I missed there?

MR. NICHOLSON: We didn't get good definition.

MR. GOESON: We'll have to ask Aaron Zimmel which procedure they referenced. I'm speculating that it was a column set procedure which referenced the 10-minute rule.

MS. BUTLER: Thank you. The voices were low on volume and so I wasn't sure that I had missed anything or not. Thanks.

MR. NICHOLSON: Okay. I think at this point, I'm going to conclude what I've got, and pass it on to Ravindra. Thanks.

BY MR. CHHATRE:

Q. Doing the traditional passover, what do you call that?

A. Shift change.

Q. Shift change discussions, did Dave mention to you what happened especially the mass balance alarm and MBS is what you call it?

A. Yes.

Q. Was low pressure mentioned at that time?

A. Not that I can remember.

Q. Now with this process, shift change, do you guys take any notes? Are those stored someplace? If the day's busy, the shift before and you have 15, 20 items, how do you keep track of all those stuff?

A. Depending on how much is happening, or the importance of it, I'll usually have a piece of paper where I write down things that I think need to be passed on or things that happened that may or may not be cleared by or may not have ended by the shift change. That way they know that there are some active things that may be going on. There's no specific process. Everybody does it a little different.

Q. There's no process where you keep track of documentation that you are following an event through that can extend more than one shift, that historical data nowhere to be placed I guess?

A. Yeah, it just depends who's working and what happened. Sometimes my page, it'll be a blank page when it comes to shift change. Sometimes I fill out a whole bunch of stuff.

Q. If the day's uneventful, then --

A. Exactly.

Q. Did you take any notes that day?
A. Did I take any notes that day?
Q. For the shift change?
A. When the shift was being handed over to me?
Q. Yeah.
A. Not that I can remember. I know there would have been a few things I would have kept in my mind to keep track of, but I couldn't tell you if I wrote anything down or not.
Q. Okay. Now can you tell me what triggers a leak in your mind? What has to take place for you to suspect a possible lead, not that there's a leak but a possible leak?
A. Typically it's a drop in pressure and with the pressures already being low, I wouldn’t have seen a drop or units falling off can signify something but, of course, there weren't any units running.
Q. What does that mean, unit falling off? I'm not an operator. So I don't understand language.
A. If you have a unit running --
Q. Uh-huh.
A. -- and it falls offline.
Q. Suddenly goes offline.
A. Yes.
Q. Okay.
A. It could be an equipment problem or it could be something associated --

Q. Like a sudden I guess coming offline.
A. Yes.
Q. All right. What else?
A. There's also units that speed up for no reason. Like if it's a VFD unit, and it speeds up or slows down, because of the drop in pressure.
Q. That would be like -- when you say unit, what, what unit we're talking about?
A. A unit running at a station.
Q. Okay.
A. A pump.
Q. Like a pump.
A. A pump, yes.
Q. Okay. The pump speeding up or suddenly slowing down. Either of those things can trigger.
A. Yes.
Q. Okay.
A. Usually you're looking for dramatic or sudden occurrences that happen.
Q. I glad you mentioned that because that was my next question. When you say drop in pressure, what kind of pressure drop you talking about?
A. Usually it's a dramatic drop, a big drop.
Q. Like -- can you give me -- is there a guideline for you guys or it's just like --

A. No, no.
Q. So it's your decision --
A. Yes.
Q. -- this is a sudden thing.
A. Yes.
Q. Okay.
UNIDENTIFIED SPEAKER: Have you been on the console when there's been a leak?
MR. CHUBB: No.
UNIDENTIFIED SPEAKER: Or just in a simulator?
MR. CHUBB: Just on the simulator.
UNIDENTIFIED SPEAKER: All right. I just wanted to --
MR. CHHATRE: Yeah.
BY MR. CHHATRE:
Q. I wanted to know if there was number, you know, the training or some such number as a guideline but it's your decision. Okay. And what else? Drop in pressure. Units falling off. Pump speed changing. What else would trigger in your opinion?
A. Those are the ones I can think of right now.
Q. Okay. What about column separation of mass balance alarms? Will those be potential triggers?
A. The MBS alarms could be but I'm not sure how -- what you're saying here I guess with the separation. Yeah, column separation could be a leak.

Q. Okay. And mass balance you said could also be a leak? The reason I'm asking because somebody did mention column separation, and I don't know if you mentioned that, if column separation was an indication.

A. It could be, yes.

Q. And like during the, I guess, shift change, do you discuss this mass balance alarm and other, other, I guess other, whatever the details discussed, that -- did he ask or was this thing discussed between two of you at all that could there be a leak? Did that come up at all during the shift change?

A. The leak, no. They did say that there was a MBS alarm that came in but it had cleared.

Q. Okay. In the shutdown mode, do you know why it could get cleared? Do you know that you had a shutdown mode?

A. When you shut down, you're creating an imbalance in the pipeline. So, yes, you could receive a MBS alarm, but normally once the line is shut down and sectionalized, that imbalance disappears and the alarm clears.

Q. Okay. So that's pretty (indiscernible).

A. Yes.

Q. Okay. And on page 11, I guess you mentioned something about you asked valves -- these valves are closed, and are these manually closed valves or is there some sort of actuator? How does that work?

A. They're remotely operated.

Q. So you couldn’t close them. Physically a person had to go and close those or you said they're remotely operated?

A. It depends which valves we're talking about here but most of the valves that --

Q. On page 11, you mentioned something, you asked people to close valves. On line 13, I think you said Sarnia operator, he had to open up, you mentioned why I had to open up my (indiscernible) and the Griffith operator he had to open up the injection valves and be ready.

A. We all have different valves that we're responsible for opening or closing depending if we're starting or shutting down a line.

Q. So those are manual. Is my interpretation correct? You could do it but you still have them do it. These valves, other people are opening for you, are these manual valves or you could open or close remotely?

A. There are valves I can't touch. They have to open and close them. They open or close them remote from the control room.

Q. Okay. So they have their own control room in the station. I'm confused. You have to educate me on this one here.

MR. GOESON: May I?

MR. NICHOLSON: Yes, go ahead.

MR. CHUBB: Sure.

MR. GOESON: I think what we're referencing here is just another console in our control center --

MR. CHHATRE: Okay.

MR. GOESON: -- with remote control capability.

MR. CHHATRE: Because that wasn't clear from here. Okay.

MR. GOESON: Is that right, Tim?

MR. CHUBB: That's -- yes.

BY MR. CHHATRE:

Q. Can you educate me on this sectionalization valves? What are those?

A. All down the line there are valves spread out all down the line. Now out of all of those valves, on 6B, we have two that are sectionalizing valves and on a normal operation, when you shut down, you close your sectionalizing valves. There's -- through engineering, they've decided that these are the two valves that we need to close to keep the line, when we shut down the line, just so that we don't --

Q. Sectionalize the line.

A. Yes.

Q. Okay.

A. Instead of all -- instead of closing all the valves, we have specifically designated valves.

Q. Okay. And as you mentioned, the mass balance unit, they're the group that does mass balance, do they have any shift change procedure that you know?

A. I don't know if they do or not.

Q. Okay.

A. They're at the other end of the room from me. I don't know what they do.

Q. If you (indiscernible) a problem, that if you have been with them and there's a shift change you and the new person doesn't know what you're talking about, does it happen, you have an issue going on the previous shift and you go back the next shift, and the guy says what are you talking about or something like that, that happened.

A. There are times where a station, maybe they're doing work at a station or there's a bad transmitter in their model that they'll turn off that transmitter and when things return to normal, normally we'll have to notify them to say, okay, look, that transmitter, it's back in service because the more pieces of information they have, the better their model is.

Q. Okay. There's a statement saying the mass balance analyst came to you and said the model is working. What does that mean to you?

A. As far as he's concerned, his model is working the way it should be.

Q. What does that tell you as an operator? I mean you are controlling the line. This person comes and says that my model is working. What does that mean to you?

A. Then there could be another problem.

Q. Okay. And there's a mention about the pigs. Do you use

cleaning pigs, ILI pigs?

A. I don't know what the pigs were.

Q. Okay. So that information didn't come to you guys as to what --

A. Yes, but I can't remember what they were.

Q. Okay.

UNIDENTIFIED SPEAKER: Would it make a difference in the way you run the line, batch pig, cleaning pig?

MR. CHUBB: Not to me, no.

BY MR. CHHATRE:

Q. I mean I don't know. I don't know what kind of pig they're using because --

A. Like there will be, if you need to know, there will be a work order that we could go back and look at --

Q. Okay.

A. -- and it would list the tools, but I can't remember what they are.

Q. My thinking was like a ILI pig, that would go ahead of those.

UNIDENTIFIED SPEAKER: And that's what was in the line.

MR. CHHATRE: So, yes, and so there was there plan to put more pigs in is what I was going to say.

UNIDENTIFIED SPEAKER: In this case, there was a cleaning pig in front of an ILI.

MR. CHHATRE: Okay. So jointly. Not --

UNIDENTIFIED SPEAKER: Correct.

MR. CHHATRE: Okay.

BY MR. CHHATRE:

Q. Going back a little bit into the training situation, that you said you would have a trainee watch you operate. How do you know that the trainee will be coming to your office on a certain day? Are you notified ahead of time or just find out when you go to your office that they are sitting there?

A. Either way. Sometimes you'll know ahead of time that their mentor, their mentor was going to have those days off, could have phone in sick, you're the replacement. So sometimes you'll know ahead of time and other times you don't until you show up.

Q. Right. And then who tells you that this trainee is going to be in your office? Who informs you of that?

A. Sometimes it isn't that formal. Sometimes the trainee shows up and the trainee, it depends which side you're working on. Maybe the trainee sits on that side or sometimes depending who they want to sit with, because there's two people. So they have their choice of sitting with either person, or it depends which side they're assigned to. It's --

Q. So the lead or the supervisor, nobody comes and tells you.

A. Well, they could but it doesn't always work out that way.

Q. Okay. I'm going to go to page 19, line 10. You

mentioned something about significant. I trying to understand what significant would mean to you.

MR. NICHOLSON: His pages probably don't match up.

MR. CHHATRE: Okay. That's the problem.

BY MR. CHHATRE:

Q. Okay. I know.

A. We're talking about Niles here.

Q. Oh, yeah.

A. What are you talking about?

Q. Thank you. Yes. Okay. All right. Let me see.

MR. NICHOLSON: Say a little bit more about the conversation.

MR. CHHATRE: Yeah, that's what I'm trying to find out now.

BY MR. CHHATRE:

Q. Let me come back to that. I don't take time here to locate that.

A. Okay.

Q. I'll come back to that. Now our pages may not match. So you said the model picks up imbalance and then they are divided into 5 minute, 20 minute and 2 hour allowance. Does that ring a bell?

A. Yep, yep.

Q. Okay. Can I ask what this means, the 5 minute, 20 minute and 2 hour allowance? What are those?

A. It just depends on the degree of imbalance, depending which alarm you get.

Q. But what does it mean in terms of volume associated with that or is there --

A. I think it's a percentage, but I don't know -- I'm not a MBS guy.

Q. Right.

A. I don't know. The 5 -- it's just different severity depending which alarm you receive.

Q. But my understanding is it's an operative -- the mass balance guy comes and tells you that there's a 5-minute alarm. What does that mean to you? What are you looking? What you should be looking for on your charts?

A. No, I'll receive the alarm.

Q. Okay.

A. So I'll get an alarm and then I'll phone the MBS guy and tell him, look, I have a 5-minute alarm. Can you look into it for me?

Q. So you're displaying 10-minute or 5-minute alarm?

A. Yes.

Q. And so do you -- I'm still not understanding. I'm probably (indiscernible) I guess. It looks like a severity I guess --

A. Yes.

Q. -- how much column separation you have.

A. Yes.
Q. But do you have some kind of number decision in that? So you --
A. No.
Q. You don't really need to know what that 5-minute alarm means?
A. No.
Q. Does that mean it has been cleared in 5 minutes? Is that what it means or you never ask the mass balance people what this 5-minute alarm means, do you, or 10-minute alarm means to you?
A. Have I ever? No.
Q. So what you're supposed to do with --
A. It depends which alarms come through. There's a different procedure depending what type of alarm it is.
Q. And it's different --
A. 5 and 20s are basically the same.
Q. And like --
A. And you call the MBS guy. Well, we call the shift lead on a 5 or 20 and then they get a hold of the MBS guy. On a 2-hour alarm you automatically phone the MBS guy.
Q. Okay. So 5 and 20, it's up to you to phone them or not phone them?
A. No, no, we always call them. I'm not -- it depends which path we take. With the 5 and 20s, we get the shift lead to

look at it.

Q. Okay.

A. But it depends. If the shift lead's busy, I'll just contact the MBS guy --

Q. Okay.

A. -- right.

Q. The 2 hour does not give a choice but to call.

A. Yes, the 2 hours, automatic, yes.

Q. Okay. And you know what alarm you got on that day?

A. I received multiple alarms.

Q. Okay. Can you explain me the 10-minute rule, what it means to you? You mentioned that you followed a 10-minute rule. What the 10-minute rule means to you? What are you supposed to do or --

A. For the 10-minute rule, you start the pumps upstream and you're expecting to see pressure downstream within your 10 minutes. So as the 10-minute rule, as you approach it, you usually get the shift lead involved just to see, make sure they're seeing the same stuff that I'm seeing, and then depending on what we decide, normally you'll shut down in 10 minutes if you haven't if you haven't seen your pressure. If you've seen your pressures starting to come up, you might let it go a little bit longer, but normally 10 minutes you're shutting down.

Q. And what kind of pressure change you expect to see in that 10 minutes?

A. A significant change. I can't come up with specific numbers.

Q. The procedure, the operator --

A. I'd have to pull it up and look at it to tell you for sure.

Q. Okay. You think that that information is in the procedure.

A. Yes.

Q. Or is it something that you kind of decide based on your experience?

A. Well, yeah, 10 minutes. If you're not seeing any kind of improvement for sure you're shutting down in 10 minutes. There has been times where, yeah, it's gone a little bit longer than 10 but we were seeing pressures increase. Maybe they weren't quite where we expected them just yet.

Q. And how often it happens that with your 10-minute rule, you say, gee whiz, it's not increasing at all, so you shut down and go back again?

A. Not increasing at all would be very infrequent.

Q. Okay. And not increasing significantly, how often that happens?

A. You do see that on certain sections of the line that are prone to draining out and it depends on who shut down the -- like sometimes I'm not the guy that shut down the line to start it up. So I don't know if they, if they drained it out or I don't know,

right.

Q. Okay. There are certain lines that were prone --

A. Yes.

Q. -- based on --

A. Sections of the lines.

Q. -- the topography.

A. Yes.

Q. And was Marshall one of those?

A. Not typically, no.

Q. So I guess the logical question following that is, if it happens where you're I guess exceeding your 10-minute rule, and went almost 21 or 22 minutes, and you're still not seeing increase in Marshall, does that mean a flag in your mind, something is really not right?

A. Did it that night? No.

Q. And why would it not trigger a flag in this occurrence?

A. I don't know. It just didn't trigger anything that night.

Q. And were other attempts made after this 20 minutes, I guess was a second attempt made to restart?

A. Yes.

Q. And still didn't (indiscernible).

A. That's correct.

Q. And was that discussed with your lead as to this is not a typical line problem for this kind of problem, that you went

through two times --

A. No.

Q. -- and still not seeing anything?

A. No.

Q. No, meaning not discussed with the lead or no meaning none of you guys felt it was significant?

A. Not discussed.

Q. Not discussed. And the lead didn't ask you -- the lead didn't discuss that either?

A. Not that I remember.

Q. When you answered Matt's question that, you know, there is no perceived procedure to every situation and item, I understand that but then you said then you can go pick out the procedure that matches closely with the situation.

A. Well, you try to look for a procedure --

Q. Right.

A. -- that closely matches, and if it looks like it should work for that situation. If not, then you don't have a procedure.

Q. Then what happens? I mean once -- I'm not sure that it happens frequently. Does it?

A. No.

Q. No. So what is the next step you guys do as an operator? Do you send this I guess aberration upwards and any action taken or generally nothing happens for the event?

A. Normally if there's something that happens, if there

isn't a procedure for it, there's one -- there's a process, but to produce a procedure for that situation.

Q. So you would inform your lead or what's the process for that?

A. In the procedure database, there's a section for --

Q. Your --

A. -- creating that, yes.

Q. Now the leak triggers you discussed, did any of those in your opinion happen during your shift when you started the unit, the line at 1:00, when you started the line? Did any of these that you see now, obviously you didn't see then or otherwise you would have acted then, looking back now, do any of these look like --

A. The low pressure and not being able to fill in the column, yes.

Q. Okay.

A. But the other typical ones didn't apply.

Q. Now since the incident, did you guys have a group meeting to discuss between yourselves, gee, you're looking back, this is what happened, did we miss something? Did we unfortunately or no, everything -- the information available at that time, you guys did everything according to expected? I guess it's a two part question. Was there any meeting you discussed what happened in this particular event with your leads or your colleagues or --

A. That I was involved in, no.
Q. But was there any meeting --
A. I couldn't tell you. I was not involved in any such meeting.
Q. So you didn't know if it happened.
A. I've been removed from my position. I've been reassigned. So I don't have a clue.
Q. What happened.
A. With the question that you asked, I have no information.
Q. I didn't know.
A. Okay.
MR. CHHATRE: That's it for me. Thank you much.
MR. NICHOLSON: Okay. Brian.
MR. PIERZINA: Yep.
BY MR. PIERZINA:
Q. Just to start out with, so when you started your shift, is one of your first responsibilities to look at the CMT and see where you're at or is that -- I know that you guys do it in 2-hour intervals. Is that -- do you do it like right away when you get on shift or do you take what the passdown person has given you and add 2 hours to it from there?
A. It depends what's happening. If I have maneuvers happening right away, then, yes, I go to my CMT just to check their times to make sure everything's lined up. If things aren't happening right away, depending on what's happening, if I have

other things happening, I may not look at that right away.

Q. Okay. So if you can recall from taking over your shift on that day, that would show, if there was an imbalance, a short, that would show on the CMT that you get from your previous shift?

A. Okay. You're kind of asking two questions there.

Q. Okay.

A. No. Did I look at it for 6B specifically? No. That line wasn't planned to start up for a while, and other things were happening.

Q. Okay. So then when you first would have to do it for 6B, do you look at the previous numbers?

A. Yes.

Q. Okay. And would that have indicated a short?

A. It definitely would have shown a drain in the line because the line had been shut down. So I'm expecting more oil to come out of the line that was put in the line from the last CMT track.

Q. Okay. Do you remember if, do you remember if it had come up short?

A. Yes.

Q. Okay. Did it seem like a number --

A. I don't remember what the numbers were.

Q. Okay. All right. But that's not unusual on shutdown?

A. That's very normal on a shutdown.

Q. Okay. If you got a MBS alarm on a shutdown, would you

expect that to clear?

A. Yes. On a shutdown, you're going to have an imbalance depending on how the line is shut down. Once the line is down sectionalized, stabilized, it reduces that imbalance and typically it clears.

Q. Okay. Does that mean that whatever caused the imbalance went away or --

A. No, it just means that the system isn't detecting any oil moving and --

Q. All right. So is that something that you had investigated? If you're on a shift and you shutting down the line and you get a MBS alarm, I guess you expect it to clear because you don't have flow, but do you still investigate why, why you got it?

A. If I get a MBS alarm, I call either the shift lead or the analyst, and they'll look into it and get back to me on the alarm.

Q. Okay. And the expectation is that the analyst is going to tell you whether or not the model's working?

A. Yes.

Q. Okay. So if the analyst comes back and says the model's working, then does that point you to taking another step to look into, okay, it's working, it's valid, why --

A. Typically the analyst comes back and he'll say like you said, the model's working, the alarm should clear, is a typical

response. So when I get that back, if the MBS alarm clears and is gone, it's exactly what he said would happen, everything should be good.

Q. Okay. So that -- all right. To me, that kind of points to a shortcoming I guess because you expect the alarm to clear because you don't have flow but you don't, you know, you still don't know why you got the alarm to begin with. So -- okay. I'm going to ask a question. I don't want you to speculate and it's basically putting you in the position of the previous shift when you're shutting it down, you get a low suction, low suction pressure alarm, get invalid pressures from the line pressure monitor, you get a MBS alarm, would you proceed, you know, from what your knowledge of your procedure, would that direct you to take any action or look into, look further into trying to find the problem?

A. It depends how the shutdown went. If the shutdown is a slow shutdown and I know I drained out a section of line, I'm going to expect a low pressure MBS and it's probably what I expected. So I wouldn't. If it was a good shutdown and all of a sudden I had pressure where I didn't expect or if I have low pressure where I didn't expect it, then, yes, I probably would look into it. It depends on how the shutdown went.

Q. Okay. Have you ever seen a situation where, you know, with time lag from the PLCs at the station to, you know, your commands that you issue a command before, you know, say getting

information back from the SCADA system?

A. Have I ever experienced a lag? Yes.

Q. Okay. Has that ever caused you any problems or it's like, you know, so you've issued a command and then you get information back from SCADA that says, oh, shoot, it's already responding to something else?

A. Okay. What's the question?

Q. I guess I'm just wondering if it ever caused you any problems, you know, a time lag like that?

A. It can cause you a little bit if you're expecting a unit to come on, you want to move pressures and there's a lag, you're wondering if that unit is in motion, if it is starting or not, you have your lag area. So sometimes you're wondering if you should be starting another unit because maybe that one isn't coming on or it is just a lag and, yes, it is and if so, yes, it can cause you a little bit of uncertainty and stuff but usually it's not enough to cause any great big problems.

Q. That lag, is that on the order of a few seconds or can it be a lot longer?

A. Typically it's short. I'm trying to think how -- it could be -- well, yeah, at least a couple of seconds. It's not like it's going to be a minute or anything but --

Q. Okay.

A. -- it definitely could be more than a few seconds.

Q. All right. You talked about being, you know, being kind

of swamped and Ghazal was helping you out. So I'm just kind of curious, you know, is that your normal back up for when you get swamped? Somebody close by.

A. Yeah, normally it's my shift partner because like I said before, we're both trained to work both of those consoles. So she's trained to do the same job that I am. So that would be my best back up would be to get the person that does the same job that I'm doing to help me out.

Q. Okay. And just -- I guess I have to ask the question. What if she's swamped and you're swamped. What's your next back up?

A. Normally a shift lead.

Q. Okay. All right. So on the first restart when you got your MBS alarms, you had the conversation with Jim Knudson, I couldn't catch whether that was over the phone or face-to-face?

A. I don't remember exactly. I do remember I had the alarms. From what I remember, I had the alarms and I was just getting ready to contact him, but he had actually walked over to see what was happening.

Q. Okay. So --

A. This is what I remember.

Q. All right. So the majority of that was face-to-face or right over there at your console?

A. The majority of it was, yes. I'm sure I probably talked to him -- I don't remember. I probably talked to him on the phone

as well, but --

Q. All right. Were there any coincidental alarms or other activities taking place on, you know, on the other lines that you're running at the same time? I know you said it was busy.

A. I'm sure, I'm sure there was. I can't remember specifically.

Q. Okay. Nothing that sticks out in your mind.

A. No, I was dealing with the 6B stuff. So I don't really remember what was happening on the other lines.

Q. When you restarted 6B, would you have been in communication with the pig tracker?

A. I'm sure I would have because when we start the line, they -- that's something they need to know so they can keep track of the pigs.

Q. Right. So would that -- that would be something that you would contact your pig tracker and let them know we're starting up before you start up?

A. Typically, yes.

Q. Okay. And do you recall conversations with the pig tracker?

A. No.

Q. And would it be similar when you shut down, you would have -- would you have called the pig tracker and say it was shut down?

A. Typically I'd say, yeah, look, we shut down again just

so that he is not, depending how far down the line he is, if he's expecting the pig there or not, right.

Q. Okay. I don't recall seeing those phone conversations. Would it have been possible with as busy, you know, as you were, that somebody else might have made those calls for you?

A. It's very possible. I would think that I did call them, but I can't say for sure.

Q. Okay. All right. Thanks, Tim. That's all I've got.

MR. NICHOLSON: Okay. Karen. Do we want to take a break? I've lost track of time.

MR. CHUBB: I don't have a clue what time it is.

MS. BUTLER: It's up to Tim. Do you want a break, Tim?

MR. CHUBB: I could always take a break.

MS. BUTLER: Let's just take a stretch. How's that?

MR. NICHOLSON: Let's do 5. We'll resume at 15 after.

(Off the record.)

(On the record.)

MR. NICHOLSON: Okay. We're back on. Part 3 of Tim Chubb's interview. Karen Butler, you're up for questioning.

MS. BUTLER: Okay.

BY MS. BUTLER:

Q. Tim, just take a deep breath because all I'm wanting to do is kind of understand some things that have been said previously and ask you some questions about things that may or may not have happened. Okay.

A. Yes.

Q. So don't think that when I say an element, that it means it happened. It means I'm just trying to understand whether it did or didn't, all right.

A. Okay.

Q. The first thing that's kind of confusing to me just because of the time zone differences is to understand exactly when you would say an alarm or command log, you actually were the person that was operating. So I think that Matt has in the room a copy of some alarm and commands that were submitted to us as part of the data request, and on that, if you could just find the event as to when you would have officially started your shift, and then find the event that would have been last when you ended your shift, that would really be helpful for us to make sure we're not assuming any incorrect understanding of who was on the console when.

A. Okay.

Q. Could you just take a few minutes?

MS. BUTLER: Matt, could you show him that?

MR. CHUBB: He's flipping pages.

MS. BUTLER: Yeah, I'm sure.

MR. NICHOLSON: Yeah. Well, I'm going to hand Tim here a copy of the 25th and 26th console command alarms, console alarm and command sheets. That's July 25th, chronological.

MR. CHUBB: Okay.

MR. NICHOLSON: And this is the 26th. So shutdown was sometime in here. So if you want to start, and they're two-sided.

BY MS. BUTLER:

Q. This is just so we make sure when people said local time or pipeline time or another time, that we kind of do know when the handoff occurred.

A. Okay. Looking at these, I can't tell anything. Do you know if these are MST or local times on the sheet?

MR. NICHOLSON: They're MSTs.

MR. CHUBB: They're MSTs. So I don't even know what time.

BY MS. BUTLER:

Q. That's okay. If it's too difficult from that --

A. Well, I just -- like none of this, looking at this, I don't remember --

MR. NICHOLSON: For instance, I'll just jump ahead, Karen, to maybe like items.

MR. CHUBB: That would have been me.

MR. NICHOLSON: Okay.

MR. CHUBB: That, that --

MR. NICHOLSON: You made those changes.

MR. CHUBB: That kind of time I would have don that.

UNIDENTIFIED SPEAKER: What are you pointing to?

MR. NICHOLSON: I'm pointing to the VIN number 2126 and the changes, the set point changes --

MS. BUTLER: Okay.

MR. NICHOLSON: -- at the pump stations. So that for sure was you.

MR. CHUBB: Well, it first the timeline, right, because I was the only guy at that console. So --

MR. NICHOLSON: Okay.

MR. CHUBB: But like where it starts, if it's a 5, 6 or 7, I don't -- I can't even think right now to convert MST to local, and when I would have been there. Like our shift starts at about 6:00. I would have been there 10 after or quarter after 6:00 p.m. local. So whatever it converts to, that's where I was.

MR. NICHOLSON: So that would have been 5:00 p.m. Standard.

MR. CHUBB: Okay. So somewhere between this 5:00 and this 5:16, that probably would have been me starting there.

BY MS. BUTLER:

Q. And --

A. But to say, I can't. I can't say.

MS. BUTLER: Okay. Matt, can you read for me, if it's 5:15, can you read for me approximately the event number somewhere between those?

MR. NICHOLSON: Probably 2044.

MS. BUTLER: Okay.

MR. CHUBB: That would be my best guess.

MS. BUTLER: Okay. All right.

MR. NICHOLSON: Why don't we get clarification now. I put MST on this. These are from the SCADA data files supplied to us under one of the IR requests. Is that actually in MST, the text file?

MR. GOESON: It should be.

MR. NICHOLSON: Okay. Curt says it should be.

MS. BUTLER: Okay.

MR. NICHOLSON: So, yeah, starting at 2044.

MS. BUTLER: Okay. Great.

MR. GOESON: We can, in fact, if I may, this is Curt here. We can request the, we can request the security access code to find out actual --

MR. CHUBB: When I clocked in.

MR. NICHOLSON: When he logged in.

MR. GOESON: Right.

MR. NICHOLSON: Okay.

MS. BUTLER: That would be helpful for us because then we're not assuming, you know, towards the end or beginning of shifts that maybe we're thinking it's under one's purview and actually under somebody else's.

MR. NICHOLSON: Okay. Jay, did you catch that?

MR. JOHNSON: No, I did not.

MR. NICHOLSON: So an IR request for the security access scan cards for the morning of the -- when Greg relieved Tim.

MR. JOHNSON: Well, actually it would have been the

evening of the 25th, right, and then --

MR. NICHOLSON: So for both shift change.

MR. JOHNSON: -- the morning. Right. Isn't that what we --

MR. NICHOLSON: Both shift changes?

MS. BUTLER: It would be helpful if we just had all the shift changes, you know, that are going into our logs which is the 24th, 25th and 26th.

MR. GOESON: So arrival times for employees --

MS. BUTLER: Yes.

MR. GOESON: -- for shift changes before and after and you can make that same request just through Bonnie.

MR. JOHNSON: The 24th through the 26th.

MS. BUTLER: Yes, because that's where we've picked up the --

MR. GOESON: No, that's not a problem. So we want security access, arrival times.

MS. BUTLER: Yeah, because that helps us know who's --

MR. JOHNSON: Okay. Can I just -- I want to clarify, when you say security access. That's when they actually log into the console, not when they badge into the facility.

MR. GOESON: Badge at the door.

MR. CHUBB: Yeah. So it'll be rough. It won't be an exact time but --

MR. JOHNSON: We can't track them on their actual

console login.

MR. GOESON: Not yet, no.

MS. BUTLER: Yeah, okay.

BY MS. BUTLER:

Q. All right. So shifting gears a little bit from that, and thank you for that. So you mentioned that you've got the active alarm and the acknowledged alarms, and you've actually got I think you said four screens that are kind of involved in that alarm review. Is that correct?

A. Yes. The unacknowledged is the one that we always look at.

Q. Okay.

A. There's active, command and historical that are usually in the background.

Q. Okay. And when you say in the background, does that just mean you can pull them to front just like clicking on them?

A. There's -- yeah, there's two different ways. Sometimes they're just minimized and you just expand them and they're open.

Q. Okay.

A. Other times they're just in the background and, yes, you just click on them and they're there. They come foreground.

Q. Okay. So would that be all four of the displays would combine like line 3, line 17, both the 6s, correct?

A. Not completely. The line 3 runs on a separate environment. 6, 6, 17 and Stockbridge run on the same

environment.

Q. Okay. So since line 3 is on a separate environment, is it kind of all by itself if you want to look at its alarms?

A. Yes.

Q. Okay. And that's the only one, correct, that's separate?

A. From what I can remember, yes.

Q. Okay. And then if I were to ask you about your shift mate --

A. Yes.

Q. -- for your shift mate, what lines would they be looking at?

A. 4 and 14.

Q. Okay. So line 4 and line 14.

A. Yes.

Q. Are those -- are line 4 and line 14 in the same environment?

A. They can be but typically we try to run on separate environments.

Q. Okay. So let me think of a different way to repeat that. All right. On your shift mate's screen, would they just have 4 alarms, different types of logs that they're scanning through or would there really be 8 because 4 would be on a separate environment and 14 would be on a separate environment?

A. It would be 8.

Q. Okay. All right. From where they're sitting, I know they're like side-by-side to you, right?

A. Yep.

Q. Can they pull up everything that you're seeing without moving or do they need to like scoot over in a roller chair to look at your stuff if they're helping you out?

A. They have the capability of pulling up all the same stuff that I'm seeing on their side.

Q. Okay. And likewise you do for 4 and 14?

A. Yes.

Q. Okay. When people kind of go through the pipelines that you operate from that specific environment or that specific console, do they cover with you specifics about the type of risk or the elements that you're running, say things that might be different between line 3 and line 6? Do they talk to you at all in your training courses about certain types of risks to each pipeline?

A. Yes.

Q. Okay. So tell me a little bit about that, what that kind of -- what are like some of the things they cover with you that you remember?

A. Well, for the different lines, your different delivery injection sites, for line 6A, the station spacings are really close. So things happen quick. Typically you'll go over your column sep areas where they typically happen. It's all sorts of

-- every line, even though they run the same right-of-way, they all have their specific little things that happen on them.

Q. Okay. So in that training, do they cover things specific to the pipes? Like this pipe is older, has some problems with seam type or integrity management has found a ton of anomalies. Do they cover things like populated areas where you might be going under waterways? Do they cover those types of concerns with you or those types of things that give heightened interest?

A. Not all the time in the training, but once you're down in the control room, and you're operating, you pick up most of that stuff from other operators.

Q. And when you say from other operators, do you mean like other operators that have been on that system before you?

A. Usually the other operators that you're operating with, yes.

Q. Okay.

UNIDENTIFIED SPEAKER: Would you say that's part of the mentoring that you get?

MR. CHUBB: Yes.

BY MS. BUTLER:

Q. Do they kind of make a point to keep you abreast of that as things become -- as things change or something becomes unique to that pipeline?

A. I guess, yes, but the better way to learn like on line

6B with all the digs and all the work that's going on, you kind of get the idea that the pipe might not -- well, it's definitely not brand new.

Q. Okay. So maybe some of that's just learned through observation of maintenance activities?

A. A lot of it is.

Q. Okay. Have you ever ran for a period of time in your history without the LPM active?

A. Yeah, there's lots of times that it doesn't unless you get into a high pressure or low pressure. Then it'll activate.

Q. Okay. So if that particular software package were removed tomorrow, what would that mean to you as an operator?

A. I wouldn't want to run without it for the high pressures. It definitely helps us to notice and to help draw attention definitely to high pressure problems scenarios.

Q. Okay. All right. Have you ever seen a time when the LPM, you know, gives you these invalid pressure alarm indications and there's still been some set point adjustments? And the reason I say that is because it's my understanding that the LPM is monitoring high discharges or high pressures and as a result of that, adjusting either discharge pressures or section pressures, depending upon upstream or downstream concerns. Is that -- and I just want to clarify in the question whether or not there's been a time when it appears to have been invalid through the alarming that you're receiving that maybe set point adjustments were made

anyway.

A. That it shouldn't have taken control but it did?

Q. Well, maybe it didn't have information that was valid, that it sent set point revisions anyway.

A. I can't say.

Q. Okay. Do you know if that's ever been studied?

A. I wouldn't have a clue.

Q. Okay. Have you ever been asked anything like that before?

A. No.

Q. Okay. Well, along those same lines, have you ever noticed in your alarm logger that something didn't come through? For example, you knew you sent a command and you don't ever receive the alarm back that says, you know, something's in travel state or that it took that action?

A. Not that I can think of.

Q. Okay. You mentioned previously that one of the things you're watching for is units speeding up with no reasonable explanation or no reason, that I think you were trying to say that that might be a leak indication. Is that a correct understanding?

A. Yes.

Q. Okay. Do you see that very often?

A. With VFD units, you would see that -- in typical working, do I see that?

Q. Yeah.

A. No.
Q. Okay. Is there other reasons besides VFDs that might be controlled, they're driven, and beside the leak that that might occur?
A. So we're talking non-VFD units?
Q. Right. If there's nothing that --
A. Yeah, because if there's a drop or if you lost a unit upstream and the drop comes through, it's not a leak, but if it was on -- if you were on discharge control and that drop comes through, the suction can drop and, yes, it'll open up that unit.
Q. Okay. So basically that would respond through hydraulics, right? Just standard hydraulics --
A. Yeah, if you had a pressure come through from upstream, it could happen.
Q. Okay. Has there ever been any control-related issues that you can recall that have caused that, that were not VFD and it wasn't a hydraulic situation that you would expect? Has there been anything else in your mind that ever triggered you as, gosh, that caused that throttle to change?
A. The only -- well, and I guess it's kind of hydraulic. It would just be fluid type changes.
Q. Okay. That's fair. Thank you. I'm going to shift gears for a minute on pressure control valves. Do any of your lines that you control routinely have pressure control valve problems?

A. Line 6B, the control valves are usually slow to react.
Q. Okay. Do any of the other lines have specific control valve problems that you can recall?
A. There are. I just can't remember specific lines.
Q. That's fine. That's fine, Tim. Don't worry about it if you can't recall it, okay. So do you know if on the line 6B pressure control valves, when it's been slow to react, has anybody ever talked to anybody about that or written it up to your knowledge?
A. Yes.
Q. Okay. Do you know if they went out and worked on it?
A. They have tried to tune them. Sometimes it works. Sometimes they're better. Sometimes they're worse after they're tuned.
Q. Okay. So are there specific locations where that's prevalent or just kind of 6B in general?
A. I'm going to say as a percentage of valves on a line, 6B's probably the worst of the ones that I run, but all of the lines have a valve or two at least that don't react the way that I would them to.
Q. Yeah, okay. All right. So when you think about 6B in general, there's not like a location or two that you just feel like you constantly have issues with?
A. I'm trying to think. I believe Mendon's one of them.
Q. Okay.

A. It's -- I haven't operated here forever. So -- not forever, since the incident, and I don't remember.

Q. I understand, and it must be difficult to try and reflect back, and you're doing a fine job. So when I ask you these types of questions, that's why I started the way I did and just said I'm going to ask you some general question. If you don't remember, you just don't remember. Okay. So the next question I'm going to ask you is about transmitter locations, and when you would bypass certain stations, if you always anticipated knowing that the pressures were behind the closed valve, by actually seeing an active pressure. Are there any of those that you recall?

A. No.

Q. Okay. All right. Okay. I'm going to go back to just a few things that you said previously and get clarification because I may have misunderstood. Maybe I couldn't hear part of it or maybe I thought you said something, that that wasn't the take on it at all. We talked about lack of pressure at Marshall being an issue initially I think. Matt brought this up and we were kind of discussing, I think your answer there really wasn't because you're used to seeing that. So is Marshall being low in the pressure range something you typically see or is that typically when you don't have Niles and you're bypassed at Niles? How would you explain that?

A. The pressures at Marshall, for that night, the low

pressures didn't trigger anything for me.

Q. Okay. Would they, would they normally?

A. Possibly.

Q. Okay. And so is there any thought to you as to why they didn't trigger that night?

A. No.

Q. Okay. All right. I noticed that you said previously that, you know, line 6 can be really tough to run if you have more than one station out, and I think, and correct me if I'm wrong, Niles was bypassed through your shift. Is that correct?

A. It was bypassed when I got there for my shift.

Q. Okay. And when did that change? Did it change on your shift?

A. It did not change on my shift.

Q. All right. All right. And so the entire evening, I'm sorry, the entire time of your shift, you were dealing with Niles being bypassed, correct?

A. Correct.

Q. Okay. And then there was another station that had power constraints. Is that correct?

A. Not -- just the normal power restrictions that are normally there. There was no extra power restrictions on it.

Q. Okay. And when you say that, that would be like they are actually controlling or wanting to have you limit the amount of power you're using at that location?

A. Yes.

Q. Okay. So that doesn't really relate to like units being out of service, correct?

A. No.

Q. All right. Do you remember where that power restriction was occurring?

A. I think it was Porter.

Q. Okay. All right. Do you recall any other station consideration that may have been unusual in the hydraulics of your set up that night? Or I'm sorry. Your set up during your shift.

A. Not that I can think of.

Q. Okay. Okay. When they run pigs set up, I know that we kind of discussed this before, and they asked you, to your knowledge, they hadn't necessary ran some hydraulics on 6B for this particular pigging event. Do you understand them to actually go in and run those with power constraints as well as bypassing certain stations at certain times or do you have any knowledge of that?

A. I'd just be assuming if I said anything.

Q. Okay. That's fine. That's fine. You were very gracious initially at beginning of this interview and you talked to us about how you typically do a start up and you went through the various steps.

A. Yes.

Q. Could I ask you to do that same thing for a shutdown?

What are the various steps you would take?

A. For a shutdown, I'll let the guy know at the injection site and I'll let the guy know at the delivery site. Typically the delivery site, they'll increase their holding and at the injection site, they'll kill their boosters. Once I know that the boosters are down, I start shutting down the units down the line and usually keeping in touch with the guy at the delivery end, so that he can adjust his holding just to try to keep the line together the best we can on a shutdown.

Q. So on that, just a little bit, so that I understand better, when you're adjusting holding and I guess we would be doing that at Stockbridge, right? Is that something that you have to have somebody else do or can you input that into your console and it translates to their console?

A. If I was delivering into Stockbridge, I deal with that, but I was into the Sarnia operator. So he was adjusting the holding for me.

Q. Okay. So at Sarnia and I guess it would be Marysville --

A. Yep.

Q. -- correct? At Sarnia and Marysville, is that a manual element or like are they going to a computerized console and making that adjustment or are they throttling a valve actually or how does that, how does that actually translate?

A. They have their -- they have to make an input --

Q. Okay.

A. -- and there's a couple of different ways to control that valve.

Q. Okay. And when we're saying they have to make an input, would this be from your control room or actually out of the terminal?

A. It's from our control room.

Q. Okay.

A. Just a different console.

Q. Okay. All right. And so they would make, so they would make their changes and then you would know that hopefully that holding pressure has been changed?

A. You cut out there, Karen.

Q. Oh, I'm sorry. So they're making changes at their console, either Sarnia or Marysville, and when they do that, the way that you would know that the holding pressure got increased is by watching the pressures just come up or do you have other indications?

A. I just watch for pressures and if I don't see the pressures doing what I expect them to do, I'll contact the operator again just to make sure what they're seeing at their end because they see a lot more than I do, that things are going the way they expect them to.

Q. Okay. Great. So when you're stopping the line or shutting down the line, do you typically follow a specific order

of stations?

A. Normally I just go down the line and drop the stations in the order that they are down the line. On 6B, it would -- basically you just go down the line and stop your stations.

Q. Okay.

A. There are lines where you will have to adjust the order.

Q. Okay. So would those lines on -- where you adjust the order, would those be other lines from your same console?

A. Yes.

Q. Okay. All right. And when you said you just go down the line in order, where do you start?

A. Top of the line typically and just turn off the stations as I'm going down the line.

Q. So the one closest to the delivery?

A. Is the last one off.

Q. Okay. Okay. And when you shut down, Tim, do you typically like increment things down? Like when you're shutting down a particular station, have you adjusted some set points ahead of that or it just depends?

A. It just depends. There are times where you do throttle off the units.

Q. Okay.

A. I guess the preferred method is to throttle off the units but --

Q. Okay.

A. -- depending how the drop goes, sometimes you just drop the station.

Q. Okay. So it's really a function that's a hydraulic response. Is that a fair assessment?

A. I would say yes.

Q. Okay. All right. Is there anything else that we need to discuss associated with a typical shutdown?

A. Yeah. We close the routine sectionalizing valves as well.

Q. Okay. And if we were pumping between Griffith and Marysville, what's the routine sectionalizing valves? Do you remember?

A. The first one is at -- it's either Porter or Mendon, and then the second one is at Stockbridge.

Q. Okay. Sorry. I have to type a little bit here but it takes me longer. Okay. So shifting gears a little bit, anything else we need to say about shutdowns before we kind of get off a typical shutdown?

A. No, just as I'm shutting down, I'm watching pressures. The sectionalizing valves, if the pressure is lower, they'll get closed right away. If they're a little higher, I might take my time and you may have to drain the line down a little bit but, no, pretty much typical.

Q. Okay. All right. So when you're watching pressures and you're paying attention to your speed of your sectionalizing valve

closures, are you doing that from a specific display usually?

A. Yes.

Q. And what display is that called?

A. The alternative valve display.

Q. Okay. And on that display, do pressures change color as well as valves or talk to me about what you can see from that display?

A. All it is, it's an elevation profile with valves.

Q. Okay. And on that elevation profile with valves, do the valves change color?

A. Yes.

Q. Okay. Does anything happen on the elevation profile itself?

A. No.

Q. Okay. Okay. Now I'm going to shift gears a little bit on you. So we were just talking about shutdowns, and now we're going to start just one question about start ups. When you started up the pipeline, are you typically changing pressure control valve settings as you go along as well or is that just something that also depends?

A. It depends on the pressures, but usually on the start up, I'm -- I have more control on the units.

Q. Okay. Talk to me a little bit about that. You usually have more control on the unit, meaning that you know the condition you start with a little better and so in your starting and steady

state so to speak, and so --

MR. NICHOLSON: No, no.

MR. CHUBB: No.

MR. NICHOLSON: Hold up. He's shaking his head no.

BY MS. BUTLER:

Q. Okay. That's fine. Great. Just talk to me about that.

A. When I'm starting up units, I just make sure my set points are in closer so that as that unit starts and hits, it doesn't hit fully.

Q. Okay.

A. And then as I need more pressure, I'll open up those control points.

Q. Got you. Got you. Thank you. I just couldn't see your head shaking. Sorry about that. All right. We're going to shift gears again in a minute. Let me finish --

MR. JOHNSON: How many gears you got, Karen, just so I know?

MS. BUTLER: What did you say?

MR. JOHNSON: This is Jay. I just wonder how many gears you have over there.

MS. BUTLER: There you go. Okay. I think we're doing okay.

BY MS. BUTLER:

Q. You mentioned that, we were talking about a previous screen and it said when pressure falls below a certain point, we

were talking about the fact that the color would change back or I guess it would go, this would go blue or something and then as pressure came back up, it might go back to green. Is that correct?

A. Yes.

Q. Okay. And what display is that?

A. I want to say it's my line display.

Q. Okay. And -- all right. So as we're looking at that, and you mentioned that because in this case the pressures were so low, they were never going to come back to green. Is that typical from a shutdown on line 6B that it would stay in that color for a while?

A. Not at Marshall.

Q. Okay.

A. At I think it's Howell it would stay like that for a long time.

Q. Okay.

MR. JOHNSON: But I don't think that your question when you said would never turn green. I don't think that's correct.

MS. BUTLER: Oh, no. Would not change back to green. That's what I meant. It just wouldn't change back to green as typically, as quickly as normal.

MR. JOHNSON: Maybe, maybe I have a question here, Karen. Is it -- I don't know that it happens very frequently, that you're in the blue. Is that a fair statement, Tim?

MR. CHUBB: Depending what line and where you are, yeah, normally it'll be green and it just stays green. If it dropped to blue, it would be different. On the main lines, Glenn Ave. and Odessa, those ones are always blue every time we shut down, and as you start up, they're still blue until they can get the pressure in, and then they change back to green, and then they're good. So when you shut down, they'll go to blue and then they'll be blue until you start up that section of line again. So it does happen on certain parts of the lines where the pressure numbers will get low enough that they turn blue, and they stay blue until you finally get enough pressure back in there on another start up to go green.

MR. JOHNSON: And the blue is something you would see on 6B abnormally, but from time to time at Stockbridge?

MR. CHUBB: Stockbridge, Howell, yeah, there's definitely places where it will happen.

MR. JOHNSON: All right. Sorry to interrupt, Karen.

MS. BUTLER: No, that's fine. Thanks.

BY MS. BUTLER:

Q. So at Stockbridge and Howell, it might be typical but not at Marshall. All right. So on this particular attribute of what you're allowed to use to make a decision, meaning the change in color from blue to green, do you actually know what that color change pressure occurs at?

A. Right off, no, but I'd be able to find it fairly

quickly.

Q. And how would you find that?

A. On my pressure allowables, it'll tell me what my minimum pressure is.

Q. So you can go to your pressure allowables, and are those found on a specific screen?

A. It'll be on my line display. It'll just be a different click.

Q. Okay. So you would -- to get that answer, you would be seeking that answer and you would click to get to that --

A. Yes.

Q. -- on the display? Is that correct?

A. Yes.

Q. Okay. All right. Okay. And on your pressure allowable, is that something you set or is that something that is set a variety of ways, like it has some settings that certain people can change, like engineering or how does that work?

A. I cannot change those numbers.

Q. Okay. So you cannot change them. Okay. And are those changed rather frequently?

A. On line 6B, it seems to be but it's a number that the engineers come up with that -- as far as I know, it's a number that the engineers come up with and the shift leads are usually the people to change them.

Q. So you kind of count on just being able to look at that

and know that the software is functioning correctly around that. Is that fair?

A. Yes.

Q. Okay. All right. Do they notify you directly when they're going to change those meaning the shift leads?

A. The shift leads directly, no. It's usually an e-mail that we get that -- it's an e-mail that we get. It's kind of like we're just cc'd on it but it's for the shift leads to input changes.

Q. Do they always input those changes at a certain time of day?

A. No.

Q. Okay. So do they just do that when it meets their schedule or whenever they can do it I guess?

MR. JOHNSON: Or should we ask them? Probably best to ask the shift leads.

BY MS. BUTLER:

Q. Okay. So as a result of seeing their work or having to make decisions based off of their work, the way that you would know that, if it happened on your particular shift, is you would look at the allowables or you might have to check an e-mail to see. Is that correct?

A. Unless I happen to go in and open up the allowables panel and looked at it, and even then I probably wouldn't realize that there was a change unless it was a significant change and

then I would probably notice it. Otherwise, there's usually an e-mail sent out to say the changes have been implemented.

Q. Okay. Were you aware on this particular day of any changes that might impact you?

A. Changes that happened on that day?

Q. Right.

A. No.

Q. Okay. All right. When you mentioned that there's other people in the control room that you would go to if you needed help, how do you make that decision? Is that because there's just certain people you really respect their ability and you know they're very experienced or they've been on line 6B or talk to me about how you make that decision?

A. Well, the one person that -- I was going to ask one person. She was busy and, yes, she is a person that has worked in my group plus she's been there longer than I have and she is known as one of the better operators. So that's, that's one person on my shift that I would go to, to seek advice or help.

Q. Do you think a lot of people go to her?

A. Yes.

Q. Are there any others like that in the control room?

A. There's -- yeah, there's a few. And it depends on the question. If it's a specific question about a line, I'm probably going to look for somebody that's worked that line. If it's a general knowledge question, then there could be other people that

I'd look to.

Q. Okay. And if you were to try and characterize then what you think makes her exceptional, you said she's known to be a better operator. What are those characteristics that come to mind for you besides the fact that she's worked in your group clearly?

A. She's just inquisitive and seems to know what's happening and if she doesn't know, she's always trying to find out the answer. So it just -- she just seems like a really good choice.

Q. Okay. Do you know if she was ever asked about this problem?

A. I wouldn't have a clue.

Q. Okay. You know what I'm going to ask next, don't you?

A. No.

Q. What's her name?

A. It's Ashley.

Q. Okay. Do you know Ashley's last name?

MR. JOHNSON: Byers.

MR. NICHOLSON: Can you spell that please?

MR. JOHNSON: B U -- no, sorry. B Y E R S.

MR. NICHOLSON: Ashley Byers, okay.

BY MS. BUTLER:

Q. Okay. We're going to shift gears entirely on topic area, and you mentioned, we were talking about the time lag issue before and we talked about, you know, it can be troubling if

you're waiting to know if a pump has come on, you know you've sent the command. Is there any particular location where that seems to occur more frequently than others?

A. The only one that comes to my Regina pumps on line 4.

Q. Okay.

A. But other than that, I can't think of any specific ones, no.

Q. Okay. And I think you've asked the cross training question. Okay. So now I'm just going to ask you some questions that I've asked everybody else pretty much that was involved. Oh, no, one or two more. Sorry. On VFDs on line 3 and line 17, do you have any of those? You mentioned that there aren't any on 6A, or I'm sorry, on 6B except Stockbridge. Does line 3 and line 17 have VFDs also?

A. As far as I remember, line 3 definitely does not. Line 17 is just about all VFDs. Line 6A has VFDs.

Q. Okay. And you mentioned previously that the energy management aspect of what happened, the power group sends those requirements. Who inputs into the system those requirements?

A. I wouldn't know.

Q. Okay. All right. When you have a conversation with your shift mate, is it usually verbal?

A. Could you repeat the question?

Q. When you're having a conversation with your shift mate, the one sitting next to you, and you need their help, is it

usually just going to be a verbal conversation and not recorded through the telephone?

A. Yes.

Q. Okay. To your knowledge, are there other phone call set ups in the control room that automatically roll over? For example, you mentioned that calls, when you're busy, can automatically be rolled over to your shift mate. If it's not within the same grouping, are there any other automatic rollovers that occur to your knowledge?

A. Yes.

Q. Okay. What are those?

A. The shift lead phone rolls over to I think the whole room.

Q. Okay. Anything else?

A. Most of the time the phone rolls over to your partner.

Q. Okay. All right. We kind of mentioned that we had -- I think you've already -- sorry. We'll skip that one because I think you've already answered that in multiple ways. So changes in the control room, are you aware of any that have been made since the date of Marshall?

A. I've been removed from the control center. So I've heard, I've heard of things, but as far as I know, I don't know.

Q. Okay. So what things have you heard have been done?

A. There's been pressure restrictions in place. There's some new procedures that or changes to but I don't know.

Q. Okay. All right. Have you ever seen what I call a system alarm where it might say something like R track too busy to compute or too busy to process?

A. I think I have but I can't say for sure.

Q. Okay. All right. Have you ever noticed a time discrepancy between say when an alarm indicates in the logger that it occurred versus when something happens on a display? For example, if you've got a low suction pressure alarm in the logger at a certain time versus when say a color change occurs?

A. I don't think so.

Q. Okay. And regarding priorities of a line, have you had any input over the years or over your time regarding say the types of things that would be set up as an S8 or a S6 or S4?

A. No.

Q. Okay. Have you had any input into the descriptors that say are attached to an alarm or to a command? And what I mean by that is when it comes in, it'll say something and from that you get the meaning or it triggers a concern or not. Have you ever had input into what it describes on your screen when it comes in?

A. No.

Q. Okay. The next couple of questions, and I'm about to wrap them up, I would like to ask Curt to step out only because they're supervision-related questions.

MR. GOESON: Yep. Give me one second here, Karen.

MS. BUTLER: No problem.

MR. NICHOLSON: Is Curt going to the lobby?

MR. JOHNSON: That was my impression. Probably waiting for the elevators.

MR. NICHOLSON: Okay.

MS. BUTLER: You guys will have to tell me when you're ready.

MR. NICHOLSON: We will. We're just listening for the elevator. Okay. You can proceed.

BY MS. BUTLER:

Q. Okay. You know, we've been looking through some things and some responses. There's a couple of concerns that we have in regard to the control room, and we're really interested in knowing about some of those concerns from your perspective, Tim. So when you have interactions with the MBS analyst, do you look at them as a hydraulic expert or as an expert on the leak detection system?

A. I'm not sure the analyst so much an expert, but I do know that they have -- if they have questions that they also have people that they can contact.

Q. Okay. So when they come back to you and say is the column sep, do you question that?

A. Not typically, no.

Q. Has the relationship there between the controllers and the MBS analysts, has that always been the way you remember it since you've been in the control room?

A. It's changed a little bit since their introduction.

Q. Is there any one thing that you think kind of pushed that change to happen?

A. Not that I can think of.

Q. Okay. You know, you mentioned other people in the control room that you would go to because of questions and you want help and you treat them as somebody that could help you diagnose the problem. Did other people come to you similarly in that regard?

A. When I was in the control room there, I was paired up with some of the newer operators and I would definitely help them or if they asked me.

Q. Okay. So people came to you, too.

A. Yes.

Q. Okay. Do you feel that you have technical support in your shift leads?

A. Yeah.

Q. Okay. And do you feel that you have technical support in other leadership, say above your shift lead?

A. It depends what aspect of the operation you're looking at. There's different guys that definitely have some good technical knowledge on different areas.

Q. Okay. When you're getting decisions made on the 10-minute rule or you've obviously got to have people approve that, do they always understand the circumstances?

A. I can't say always, but I think that most of the time

that they do.

Q. Okay. Are you trained to give certain details to them when you need permission to go back up?

A. I'm not understanding the question.

Q. Okay. You know, sometimes when you're trying to explain to someone the circumstances around which you want to restart a pipeline, there's a common set of like a checkbox list or elements that you go through in your head that you need to be sure and relay to that person.

A. Yeah.

Q. So that they can make a better decision.

A. Yeah.

Q. If there -- are you trained through like a set of things you need to relate to them?

A. I don't think specifically, no.

Q. Okay. Do you know -- I guess in those conversations, are you somewhat contingent upon them asking the right question or are you just letting them with information?

A. No, I'm, I'm expecting them to ask me questions that I answer and if there is something that they didn't ask, that I'm wondering about, then I bring that up.

Q. Okay.

A. But basically I'm assuming that they're asking me all the right questions.

Q. Okay. So if you're wondering about it, you will bring

it up?

A. Yes.

Q. Okay. But if they're wondering about it, and they don't say anything, there's no like a pre-canned list of things?

A. It could possibly get missed, yes.

Q. Okay. All right. Has it always been clear to you that what authority like you do have compared to the shift lead?

A. Can you try it again?

Q. You know, sometimes it seems to us when we review some of the transcripts from this investigation, that sometimes it seems like the shift leads think, you know, the operator should do it. Other times it seems like the operators think the shift leads are doing it. Is there anything that stands out to you that the authority or who has the authority or responsibility for certain thing is vague between you and the shift leads?

A. Not really. I think it overlaps but I don't know if it's vague.

Q. Okay. Is there anything that's ever surfaced as they should have it versus the operator or the operator should have it versus the shift lead?

A. Not that I can think of.

Q. Okay. Okay. Because our goal in all of this is to clearly prevent this type of thing from happening again, both to prevent the impact on another controller, prevent the impact on the public, what would you tell us is the primary thing we should

try to prevent happening? And it can be more than one thing. It can be several things, but how can we best receive your information that what has been learned doesn't happen again?

A. I'm not sure. I don't -- can you say that again?

Q. Yeah. Okay. Looking back because it's always easier after an event to diagnose what could have prevented it, than it is in the midst of it. You've had time to reflect. Is there anything that pops out that you believe if it had been implemented or done, it would have prevented the events?

A. I don't think I would have done anything different. The only thing is with the shutdown, maybe if I would have looked at those trends. Other than that, I don't know if there's much more I would have done anything different.

Q. Okay. So what I'm going to ask you is, in your response just now, you were totally focused on your aspect of it. So I want to ask the question more globally, like more about the control room in general, not just, you know, obviously multiple people missed this event, right?

A. Yes.

Q. So is there anything or a combination of things that you think could have caused all these multiple people to not miss it?

A. No.

Q. Okay. All right. Is there -- if we had put an alarm on low pressure and that always stayed at the same spot for each of the stations, and it came in, would that have told you anything?

A. Put an alarm on the low. There's -- there are alarms that come in on the low pressure.

Q. Right. But do you know where they're set?

A. Do I know where they're set? I guess not.

Q. Okay. All right. And along those same lines, because this was a question earlier that was, when you do receive say a low suction pressure say from Marshall, do you know if that setting's coming from the SCADA system or from the PLC in the field or is it both? Do you know?

A. I don't know.

Q. Okay. Okay. Before we call anybody back in, in your performance reviews in the past, did they give you any specific metrics or things they were tracking to give you a rating?

A. There's a set of guidelines that they follow.

Q. Okay. Do you remember anything about what's in those guidelines?

A. Like it's all based on a set of guidelines and usually they pick something for the year that they're going to try to work on.

Q. Okay. As part of a bonus program?

A. Yes.

Q. Okay. Do you remember anything specific to you as an individual or to the control room that needed to be met in order to get that bonus?

A. There's many different categories that are all rated

depending on the performance of the individual or group and the company.

Q. Is that document anywhere?

A. Yes.

Q. And where would it be documented?

A. We get a newsletter, I think it's quarterly, and they show us exactly where we sit on those metrics for the quarter and for the year.

Q. Okay. So would that be specific to the control room?

A. As far as I know, it's a companywide thing. I don't know.

Q. Okay.

MR. JOHNSON: Karen, they put out what I believe are scorecards they call them.

MR. CHUBB: Yeah, a scorecard.

MR. JOHNSON: And they're different for each group. So, you know, within your area, your business area, you get a scorecard and that certainly what Tim's talking about.

MS. BUTLER: All right. Great. So we would be able to ask for the scorecards for the control room?

MR. JOHNSON: Yes.

MS. BUTLER: Okay. All right.

BY MS. BUTLER:

Q. Okay. So regarding enhancements, have you ever requested some enhancements for the control room?

A. Most -- well, I don't know. Basically it's just SCADA stuff that needs to be updated or enhanced.

Q. Okay.

A. We do those all the time.

Q. So you have submitted some SCADA enhancements?

A. Yeah.

Q. Okay. And what's that process called? Do you always fill out the same form?

A. Yeah. There's an electronic form that you go in and fill out and send it off.

Q. Okay. And do you know what the name of that form is?

A. No.

Q. Okay. All right. But as far as you know, you've requested some enhancements?

A. Yes.

Q. Okay. Is there any specific one or two that stand out in your mind?

A. Not really. It's usually just a location of something isn't where the schematic shows it is. It's usually something like that.

Q. Okay. Have they implemented a couple that you've submitted?

A. Yes.

Q. Okay. In general, do you think that process works pretty well?

A. In general, yes.
Q. Okay. Anything you would recommend to improve that process?
A. Sometimes changes take longer than I expected, but it's probably just a workload thing.
Q. Okay. Okay. And now just a couple of difficult questions and then we'll be done I think with my portion. And that is on the fact that you're no longer in the control room, was that explained to you?
A. Yes.
Q. How was it explained to you?
A. Just that we had been reassigned, moved away from the control center, just -- I think it's more just to remove us from the other operators for them to be able to concentrate or do their job to their ability.
Q. Have you talked to any of them since?
A. Oh, yeah.
Q. Do you think they actually took it that way?
A. The people that I talked to, they're buddies that I deal with when I'm away from work, too. So I've talked to them and they know what's up.
Q. Okay. All right. Before -- when were you actually removed? Immediately or did it take a while?
A. There was one set where I was downstairs observing and then removed after that.

Q. Okay. All right. So other than the impact on other controllers in the room, there wasn't anything else said to you as to why that occurred?

A. Well, they were not allowed to be operating. There's certain things that we're not allowed to contribute to and there's certain things that we are, just depending on how the impact could be to the control room I guess.

Q. All right. Okay. I think with that, I'm through, and I thank you, Tim.

MS. BUTLER: So unless anybody has follow up to what he just said, that Curt should stay out of the room, I'll leave it up to you guys.

BY MR. NICHOLSON:

Q. I've got some follow ups and then Curt can come in. Maybe one question though building on what Karen was just talking about, when they were explaining reasons why you were no longer in the control room. Were you asked not to talk about certain aspect of the accident or --

A. No.

Q. Okay.

MR. NICHOLSON: Okay. We can bring Curt up. I do have some follow-up questions. I don't know if Curt needs to be in for these. Some of these are just clarifications.

MR. JOHNSON: I think we want Curt back.

BY MR. NICHOLSON:

Q. I just want to be sure. I thought I heard you say when Karen was asking you about a typical shutdown --

A. Yes.

Q. -- that you would start with the station closest to the delivery.

A. No.

Q. Okay.

A. She said that, and I said, no, it's the other way around.

MS. BUTLER: Right. He corrected me.

BY MR. NICHOLSON:

Q. You start at the front of the line, at Griffith.

A. Typically you start at the top of the line and go, yes.

Q. Okay. I didn't understand top.

A. Yeah.

Q. Okay.

A. Okay.

Q. When we talk about that blue background on the pressures, is it possible to have a blue background on the pressure but not have the hydraulic profile touching the elevation?

A. Well, no. I'd have -- is it possible? I guess anything's possible. Is it likely?

Q. It would mean you have a low pressure but not necessarily col sep.

A. If that were true, but -- okay. Is it possible? I guess so. Is it likely? No.

Q. Okay.

A. Does that make sense?

Q. That makes sense.

A. Okay.

Q. Karen asked a little bit about low pressure alarms and if that would have helped, and you said, well, there are low pressure alarms.

A. Yeah.

Q. Is there a low pressure alarm on the discharge side of the station?

A. I don't know. Probably not. I think it's running off the suction side but I can't say for sure.

Q. Okay. If you had had a low discharge pressure alarm, would that have changed anything in the scenario?

A. I don't think so.

Q. Okay.

MR. JOHNSON: Well, just maybe a question here, Matt, if you don't mind. When you're starting it up, I mean isn't that really what you're looking at without the alarm? I mean are you not looking at your discharge pressures?

MR. CHUBB: Typically I'm watching my suction pressure, but on a station where there's no pump running, there's no differential, my discharge and my suction pressure should be the

same.

MR. JOHNSON: Okay. All right. Go ahead, Matt. I'm sorry.

BY MR. NICHOLSON:

Q. I want to go back a little farther here. You were talking about with the alarm screens, and I know we're going to see this eventually. You were using the term environment.

A. Yes.

Q. Can you just -- I don't understand that exactly. Can you --

A. There are multiple environments that we can run off of in the control room, and because for -- the main lines is a good example. We have so many main lines that they usually create an environment or two more than lines, that will run in that environment, or that area, and that gives us a free environment in case you're running your line on an environment and something happens to that environment, it creates another environment that you can move to and still operate.

Q. So are environments screens? Is that what you're referring to?

A. No. They're databases.

Q. Servers?

A. Servers, yeah.

MR. GOESON: Servers.

MR. CHUBB: Yeah.

MR. NICHOLSON: Okay.

MR. GOESON: But you can have multiple environments within a server.

MR. NICHOLSON: Okay.

MR. GOESON: It's just a distinction between areas of control.

MR. NICHOLSON: Okay.

MR. GOESON: Les can best define it but that's how we view it. Independent areas of control at a console.

MR. NICHOLSON: It has nothing to do with the way it's displayed necessarily. It's more about how it's routed. Okay.

BY MR. NICHOLSON:

Q. I think we talked about this abnormal operating conditions training is done through a simulator. Is that right?

A. Yeah, there are trainings, yeah, on the simulator, yes.

Q. And you've had that?

A. Yes.

Q. How recent?

A. We have to do it once a year. So I don't remember, but I think I did mine in the spring, probably right before summer, but I, I don't know.

Q. We can verify that.

A. Yes.

Q. Is there a simulation under that that would actually mimic like a leak at a shutdown or start up?

A. Yes.
Q. There is actually a simulation of that.
A. Yeah. There are simulations. Typically they're a leak or a blockage.
Q. Okay.
A. It's typically, but there's all sorts of different things that they can throw in there.
Q. But there is one that's a leak at a shutdown specifically?
A. I can't say specifically that, no, but there will be a scenario that you're running where there will be a leak. I can't say if they do it at start up or shutdown or if it's just in the middle while the line's running.
Q. (Indiscernible).
A. Yes.
Q. Okay. That's all I've got.
MR. NICHOLSON: Ravindra, do you have any follow-up questions?
MR. CHHATRE: Just a few questions.
BY MR. CHHATRE:
Q. You stated earlier that you were not permitted to go into the control room.
A. No, I never said that.
Q. What did you say?
A. Okay. I've been reassigned --

Q. Okay.
A. -- from the control room.
Q. Okay.
A. And it's not that I'm not permitted in the control room. It's just it's preferred if I'm not in the control room.
Q. Thank you for the verification. And who told you that?
A. I can't remember if it was Curt or Ian.
Q. My question --
A. No, we were sat down --
Q. Okay.
A. -- and we were spoken to, yes.
Q. So it was not written.
A. Yes.
Q. Okay.
A. I haven't seen anything written.
Q. Okay.
UNIDENTIFIED SPEAKER: In general, is that not common practice to not allow outside personnel, non-operators, in the control center?
MR. CHUBB: Yes. You kind of have to have a reason to be there.
UNIDENTIFIED SPEAKER: So it's no different than you or I --
MR. CHHATRE: I didn't mean unusually. I was certifying who informed him --

UNIDENTIFIED SPEAKER: Okay.

MR. CHHATRE: -- what the procedure was. That's all I was interested in. Not why or the logic for it.

MR. CHUBB: And I've had conversations with Ian and Curt both about that, and I don't remember which one specifically told me that, but it was either Ian or Curt.

BY MR. CHHATRE:

Q. Curt's nodding his head. So he's the one. Okay. I want to go back to the second start up around 4:30 --

A. Okay.

Q. -- that day. With that in mind, my question, have you ever done the starting up of line 6B in the past or whatever, you know, you're offline or whatever? Have you ever done the start up?

A. Have I ever started up line 6B before?

Q. In the past, yes.

A. Yeah, I started it up many times.

Q. Wonderful. So going back to the second start up, did you see -- is it common that you go through that many attempts to start the line or you felt it was unusual that day that you had to go through that ritual?

A. Unusual, yes. Have I started up 6B before and not been able to and then shut down, start up again and everything was good? Yes.

Q. But not the two.

A. Have I ever tried more than two start ups? No.

Q. Okay. And what about the lead? I guess my question is with that kind of situation, was there any discussion as to why it was happening or were you brainstorming then between you and the lead?

A. There was lots of brainstorming and suggestions or possibilities why we were having a hard time getting the line running.

Q. And was it elevated beyond your lead?

A. He did. He did talk to other people. Who he talked to, I don't know. I was --

Q. You were not involved in that discussion?

A. No, I am not involved in that discussion.

Q. Do you -- I mean did he come back and say, hey, I talked to my supervisor?

A. Yes.

Q. He did.

A. Yes.

Q. And who's his supervisor?

A. Well, it would have been -- I don't know who it was. It was either you or Blaine would have been his contact for the shift lead.

Q. The question was did the shift lead elevate the situation to his supervisor?

MR. GOESON: To an on call.

MR. CHUBB: Yeah, he called the on call.

MR. GOESON: It wouldn't be somebody at the office.

MR. JOHNSON: And I think it's probably best to ask the shift lead that.

MR. CHHATRE: Okay. All right. That's fine.

BY MR. CHHATRE:

Q. My question to you is the shift lead didn't come back to you and say we all agree that it's probably --

A. He had made, he had made his phone calls that he has to make and came back to me. So who he talked to --

Q. That's okay. What did he tell you?

A. That he's had other discussions and that we're going to try to start the line up again.

Q. Okay. So no possibility of leak or possible leak was discussed or mentioned?

A. To me? No, I'm sure there was. I'm sure that came up, but it's like we talk to other people. We were going to try to get the line going again.

Q. Okay. I'm going back to pressure after your first attempt at 22 minute attempt to start the line. That was the first attempt?

A. Yes.

Q. And looking at, I think you started, and I may be off sequence here, but you started certain pumps in sequence to see if you get the pressure you want?

A. Yeah.

Q. Because of which station was bypassed, because one station was bypassed and that was Niles was bypassed I think. And after you shut down after 22 minutes, and then you came back to be started, did you see any pressure changes at Marshall at that time or they were the same level as they were at the time of your first attempt?

A. As we tried to start it up, the pressures did fluctuate.

Q. At Marshall.

A. Yes, but they never had the significant increase that we were looking for.

Q. Okay. Do you see any increase during the first attempt --

A. Yes.

Q. -- at Marshall?

A. Yes.

Q. Do you recall those numbers?

A. They were very low numbers. I don't remember what they were. Probably -- I don't whether we saw it to 5 or 6 pounds maybe.

Q. From 0 --

A. From 0.

Q. -- to 5 psi.

A. Yeah, there was a fluctuation but not a significant one.

Q. And when you went to do your second start up, what are

the pressure at the time at Marshall?

A. I'd just be guessing.

Q. So you don't recall.

A. Not specific. They would have been in that 0 to 5 pound range, somewhere in there.

Q. But would that be recorded someplace? Would that be recorded?

A. Oh, yeah, it'll be, it'll be on the trend somewhere.

Q. What I'm getting at is to see whether it came back. It went from 0 to 5. During the second attempt, did I fell back down to 0? That's really what I'm getting at.

MR. GOESON: So these are the trends of the 26th. This is the Marshall discharge pressure. These are the other station discharge pressures. This is the first start up attempt that we're looking at.

MR. CHHATRE: And what was the pressure at the first attempt at Marshall?

MR. GOESON: So you can see that, you know, as they built pressure upstream, Mendon only ever got to 250.

MR. CHHATRE: Okay.

MR. GOESON: And Marshall bumped up to around --

MR. CHHATRE: 3.

MR. GOESON: -- 3, touched 3, held 3, and then they shut it down.

MR. CHHATRE: So it was 3 when you shut down the first

time.

MR. GOESON: Yes.

MR. CHHATRE: And what is the next one, I want to find out, at the beginning of the second attempt?

MR. GOESON: Here's the second one.

MR. CHHATRE: So the second attempt it is 0.

MR. GOESON: No, this is leading up to the second attempt. Here's where they started. They start here.

MR. CHHATRE: But it's still 0.

MR. GOESON: Yeah. No, it went to 0 --

MR. CHHATRE: It went from 3 to 0.

MR. GOESON: Okay, right.

BY MR. CHHATRE:

Q. And I guess my question would that, should that, if there's no leak, and you have built up, you get a small pressure, 3 psi is really nothing (indiscernible), but should it stay there at 3 psi or was that never really paid any attention?

A. I can't say that there was any attention paid to it but to go up to 3 and then to drain back off, if I didn't think they were getting the pressure into there, a 3 pound drop is nothing.

Q. So the system closed. It's closed.

A. It wasn't.

Q. It was not closed system.

UNIDENTIFIED SPEAKER: The system at that time when you were pumping was open to Sarnia, was it not?

MR. CHUBB: Yes. Yeah, it was --

MR. CHHATRE: At the beginning of the start up. I'm looking at the beginning of the start up.

UNIDENTIFIED SPEAKER: No, during that time when he hit Marshall --

MR. CHUBB: It's already open.

BY MR. CHHATRE:

Q. It's already open.

A. Everything's opened before I even try to start a pump.

Q. That helps, yeah. That really helps.

A. Okay.

Q. Now the pressure display, and I think you mentioned maybe couple of times, that that would have given you some sort of I guess a mention or possibility of a leak. Is that display, you have to ask for it, or it's kind of there all the time on SCADA?

A. The pressure display?

Q. Like line pressure.

A. My line, yeah. No, it's always there. It's our front display. It's our biggest display that we look at.

Q. That's all. Thanks for clarifying that.

A. I didn't know what you were getting at there.

Q. Yeah, I wondering if you had picked up some pressure, then why is it dropping to zero.

A. Yeah.

BY MR. PIERZINA:

Q. A couple of quick questions, Tim. Flow rates, where can you see flow rate values along 6B?

A. On 6B? There should be a flow meter at Griffith, and I can also check with my Griffith operator to see what his meter or his tank is saying. There are -- I can't picture the display right now. There are flow meters and it would be the same at the other end. I can check with the Sarnia operator to see what he's reading, and I can only guess. I can't -- without seeing the display, I couldn’t tell you but there are flow meters on the line.

Q. Okay. When you're seeing these problems on start up, would that be something that you're trying to check along the line, by getting flow?

A. Yes.

Q. Okay. And do you recall anything jumping out at you there that, you know, the flow rates aren't matching up or --

A. Well, the flow rates coming upstream of the line -- no, I'd just be guessing. I don't know.

Q. Okay. All right. Going back to the 10-minute rule, I apologize for the confusion on the 10-minute rule, but we talked about, you know, in this instance, when you start up, you get 10 minutes from starting a pump to seeing a differential.

A. Yes.

Q. And then just to clarify, there were a few different times, it's 22 minutes --

A. Yes.

Q. -- that was 22 minutes added on since you started the upstream pump. So it was actually longer than that. I guess my question is what other types of 10-minute rules are there? You know, I mean if you see a problem, you have 10 minutes to explain it or you shut down?

A. They're related to the column sep, the 10-minute rules.

Q. Okay. So what if, what if you saw some dramatic drop in discharge pressure, that -- do you have a certain amount of time before you have to reconcile that? I can say it differently. Maybe, you know, if you think about leak triggers --

A. Yes.

Q. -- that you have, do you have a certain amount of time to try and reconcile, you know, a potential leak trigger or do you just --

A. Well, a single leak trigger by itself, it's just something to pay more attention to, until you get the third leak to trigger, or I guess if you couldn't explain it, then you'd shut down.

Q. Okay. I guess the 10-minute rule that you're thinking of is more related to column separation?

A. Yes.

Q. That's what I thought I heard you say. You have basically 10 minutes to put a column together. Is that fair?

A. I think so.

Q. Okay. All right. Thanks.

BY MS. BUTLER:

Q. Just two more and that was previously we had someone explain to us that you have the capability to reboot the machines from your console. They pretty much related that to like a communications issue, an attempt to correct it. How often do you have to do that?

A. Not very often.

Q. Any recent?

MR. NICHOLSON: Any recent times you've done that?

MR. CHUBB: Oh, excuse me. Okay. I didn't know -- okay. Any recent? Not specific ones that I can think of. I think I've only ever had to reboot maybe a couple of times.

BY MS. BUTLER:

Q. Have you ever noticed where data appears to be locking up on pressures or flows? Meaning that it's not changing. It just seems to be sitting there.

A. It has happened, yes.

Q. Do you know what the cause of that was?

A. Usually I think it's a communication thing.

Q. Okay. Did any of that happen recently that you remember or noticed?

A. The one that used to be bad was the Howell-Leonard area. We used to have problems there with our one pressure read back.

Q. Okay. Okay. Thank you.

BY MR. PIERZINA:

Q. Tim --

A. Yes.

Q. -- I guess I have a better way to word that. You know, on a MBS alarm --

A. Yes.

Q. -- that doesn't clear --

A. Yeah.

Q. -- about how long do you have to --

A. I think there is a 10-minute rule to go with that if you can't explain it or it doesn't clear.

Q. Okay.

A. Because we do get the alarm that it exceeded, and the 10-minute alarm will come in on those.

Q. Okay. So if it doesn't clear, say if you've got -- say you get a 2-hour MBS alarm and it's active, you've got basically 10 minutes?

A. Yes.

Q. Okay. Is that a written procedure?

A. I'd have to look it up.

Q. Okay. All right. Thanks.

BY MS. BUTLER:

Q. Along that same line then, during that 10 minutes, would you typically have notified the shift lead and the MBS analyst?

A. Yeah, once the alarm comes in, you'll let them know and

that's kind of with that 10 minutes that if they don't get back to us in 10 minutes, well, that's where it comes from.

Q. Okay. So if they do get back to you in 10 minutes and they tell you that it's a false alarm or they believe it's a false alarm, what's your response then?

A. After that, they've given us the okay and we'll continue on.

Q. Does that okay have to come from your shift lead through that process or can you, just the conversations with the MBS analyst in your mind?

A. Either one, yeah.

Q. Okay. All right. Thanks.

MR. NICHOLSON: No more, Karen.

MS. BUTLER: No.

MR. NICHOLSON: Okay.

BY MR. NICHOLSON:

Q. So I just want to be clear then. You said just following up with Karen, you said the MBS analyst will give you the okay?

A. Yeah, like I said before, 2s and 5s were supposed to go through the shift lead before we go to the MBS analyst, but if the shift leads are busy, I'll go straight to the analyst, and on the 2 hours, we're supposed to go directly to the MBS but if for whatever reason they're busy, I'll go to the shift leads with it, too. It's kind of whoever is not as busy and then the shift lead

and analyst, their desks are right beside each other. So then once I've given it from my end of the room up to the front, as long as between the two of them, they're discussing it, they know about it. So I go to either one.

Q. But the MBS analyst is really just supposed to tell you whether it's a valid or false alarm, right? He shouldn’t be the one to tell you that you don't have to shut the line down, you should shut the line down. Is that right?

A. I guess so but with him being up there talking to the shift lead, if they're talking about it, that's all I'm concerned. If the MBS guy comes back and says, hey, look this doesn't look good, you should shut down, or if the shift lead says, look, this doesn't look good, you should shut down, I'm not going to wait for the other one to tell me. If one of them says, look, it doesn't look good, I don't care who's telling me.

Q. So to you the shift lead and the MBS analyst are sort of --

A. Yeah.

Q. -- up there?

A. Okay. I thought you were going to go with interchangeable. No, but, yeah, they give me the same information. Well, not the same information, but between them, the information that comes from them is what I'm looking for.

Q. Okay.

MR. JOHNSON: And you would only use a MBS analyst only

to clear a MBS alarm.

MR. CHUBB: Yes.

MR. JOHNSON: I think there may be some confusion. Any non-MBS alarms, your shift lead, but the MBS alarm, if the shift lead can't clear it, the MBS person does. Was that your statement?

MR. CHUBB: Yeah, that's -- yeah.

MR. JOHNSON: Okay.

MR. NICHOLSON: Only MBS. That's what I was talking about.

MR. JOHNSON: Yeah, I think that there might have been a little confusion there. So a MBS analyst, if he comes and tells you that alarm is cleared --

MR. CHUBB: Yeah.

MR. JOHNSON: -- that basically allows you to go past the 10 minutes for the MBS alarm.

MR. CHUBB: Yeah.

MR. JOHNSON: Any other alarms that are non-MBS related, that analyst wouldn't.

MR. CHUBB: No.

BY MR. NICHOLSON:

Q. We talked about, when Ravindra was talking to you, you mentioned, or actually Jay mentioned that the Sarnia valve would have been open during the second start up I think. Would that play a part in not being able to build pressure or --

A. Well, it's quite a ways away but it's not like I'm pumping against a closed valve.

Q. So you think you're draining into Sarnia as you're pumping?

A. Well, it's quite a ways away and with the elevation, probably not, but it's not, it's not like there's a closed valve anywhere --

Q. Okay.

A. -- that's going to hold back absolute.

Q. So would closing that valve have been something to have tried or not since it's so far away?

A. Well, and I'm not going to pump into a closed valve. That's --

Q. Just to see if you could build pressure downstream?

A. No.

MR. JOHNSON: I believe your procedure, you were delivering to Marysville.

MR. CHUBB: I think, yeah.

MR. JOHNSON: Which is that a side stream and you have to be open into Sarnia to do that?

MR. CHUBB: Okay. When I say that, the Sarnia operator takes care of our deliveries into Sarnia and into Marysville. So I was delivering to Marysville using the Sarnia operator. Is that -- no?

MR. JOHNSON: No, that works.

MR. CHUBB: Okay.

MR. JOHNSON: But in that process, the valve downstream of Marysville unlike Stockbridge is not closed.

MR. NICHOLSON: Downstream of Marysville.

MR. JOHNSON: So as you're delivering at Stockbridge or to 17, line 6B is closed downstream of that delivery. That's not the same one he's delivering to Marysville.

MR. NICHOLSON: Okay. I think I'm going to need a picture or a sketch or something.

MR. GOESON: Maybe I can help. This is Curt for the record. Matt's question was really about did Tim utilize the downstream valve to back up pressure.

MR. NICHOLSON: That's exactly what I was asking.

MR. GOESON: Regardless of whether it's at Sarnia or Marysville. I think he gets that, that the Sarnia operator controls both Marysville and Sarnia. He's just asking did we utilize a valve at that location, Marysville, it sounds like to back up pressure.

MR. CHUBB: The pressure control valve but it's not -- yeah.

BY MR. NICHOLSON:

Q. So you would have raised holding pressure.

A. Yes.

Q. Okay.

BY MR. PIERZINA:

Q. And this is Brian again. I guess along the same lines, and I'm just asking because I don't know, in that situation where you're trying to fill at Marshall, or I guess anywhere, would you try throttling the pressure control valve at the downstream station, say lower, you know, lower your discharge set point. Would that be something that an operator would try to fill in a column as opposed to going all the way down to the end? Would you try to fill in that section? Is that --

A. You could. I don't know if the station, if the station has a bypass check valve. It's not going to -- if it has a separate bypass line, it's not going to help because --

Q. Well, that's going to be -- that's --

A. But I don't know. I'd have to look at schematics. I don't know what the -- I can't remember what the station set ups are.

Q. I do. I don't think it would work. On some stations --

A. There are some stations that that would work, yes, but most of them have a bypass and probably wouldn't.

MR. CHHATRE: What I was getting at, was I thought after Marshall, the terrain kind of goes up hill. So you have I guess a resistance, and with that, even though 3 psi is small distributing, 0 was in my opinion some sort of problematic situation. On a flat terrain, I can understand the psi being nothing, draining or leaking will do that, but you guys can correct me if I'm wrong on that, but right after Marshall, the

terrain kind of goes uphill. Is that right?

MR. CHUBB: I believe it does.

MR. JOHNSON: There's a rise.

MR. CHUBB: A little bit.

MR. CHHATRE: So to overcome that there's a leak someplace.

BY MR. PIERZINA:

Q. Tim, let me ask you this. If you were say having a similar issue on line 3, would that be something where you might try to throttle the downstream station?

A. There's two stations that you could do that, and I really use that when I'm starting up the line, at Cromer and Gretna. You can -- I'll just bring up the suction but I bring up the suction really high and because there's no bypass line, it will hold the columns together a lot better for me. On line 3 it works. On line 4, it doesn't. There's bypass lines, right.

Q. Okay.

BY MR. CHHATRE:

Q. If I can go back to my question, the psi. Do you expect the psi to go to 0 with that kind of a topography?

A. I wasn't looking -- at the time, I wasn't looking at the elevation profile there.

Q. I understand but I mean now looking back now.

A. Now, yeah, there's been a few people that have looked at that and said, so, yeah, if I was to have low pressure at

Marshall, I would definitely wonder what was going on.

Q. Okay. Thanks.

MR. NICHOLSON: Okay. Karen, anything else?

MS. BUTLER: No, I'm fine. Thank you.

MR. NICHOLSON: All right. That concludes this interview. Thanks, Tim. I appreciate your time.

Okay. We're going to conclude this interview.

(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	ENBRIDGE OIL SPILL MARSHALL, MICHIGAN Interview of Tim Chubb
DOCKET NUMBER:	DCA-10-MP-007
PLACE:	Edmonton, Canada
DATE:	December 15, 2010

was held according to the record, and that this is the original, complete, true and accurate transcript which has been compared to the recording accomplished at the hearing.

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Kathryn A. Mirfin
Transcriber