UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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

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
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[redacted]

BRIAN PIERZINA, Engineer
[redacted]

I N D E X

P R O C E E D I N G S

MR. NICHOLSON: Good afternoon. Today is Wednesday, December 15, 2010. My name is Matthew Nicholson. I am an investigator with the National Transportation Safety Board in Washington, DC. We are currently in Edmonton, Canada, at the Crown Plaza Hotel, and meeting in regards to the pipeline spill in Marshall, Michigan that occurred on the 25th of July 2010. This is Case Number DCA-10-MP-0007.

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

MR. DONALD: Okay. My name is Robert Donald, and you have my permission.

MR. NICHOLSON: Okay. Also, if you'd like, you are permitted to have one other person present during these interviews. That can be a person of your choice, supervisor, friend, family or nobody at all. Can you confirm for me on record whom you've chosen to be your other person?

MR. DONALD: I asked Curt Goeson to sit in.

MR. NICHOLSON: You did. Now at this time, we'll go around the room. We'll each introduce ourselves. State your name with the spelling, the organization you represent, your title, and a business e-mail or phone number that you can be contacted at.

I'll start. I am Matthew Nicholson, M-a-t-t-h-e-w, N-i-c-h-o-l-s-o-n. I am with the NTSB, I'm the Investigator-in-Charge for the Marshall, Michigan case. My contact information is

[redacted]

MR. CHHATRE: My name is Ravi Chhatre. That will be R-a-v-i, last name Chhatre, C-h-h-a-t-r-e. I'm with National Transportation Safety Board, accident investigator (indiscernible) Division. My e-mail is [redacted] I'm here to assist IIC Matt Nicholson.

MR. PIERZINA: And I'm Brian Pierzina, with the -- engineer at the PHMSA Central Region. That's B-r-i-a-n, P-i-e-r-z-i-n-a, and my contact e-mail is[redacted]

MR. DONALD: My name is Robert Donald, R-o-b-e-r-t D-o-n-a-l-d.

MR. NICHOLSON: What's your title?

MR. DONALD: My title is shift lead with the Enbridge Control Center in Edmonton. My e-mail address is [redacted].

MR. JOHNSON: I'm Jay Johnson, Senior Compliance Specialist in the Pipeline Safety Compliance Group on the Superior Wisconsin, for Enbridge. And it's [redacted]

MS. BUTLER: I'm Karen Butler. I work for PHMSA, out of the [redacted] My title is Supervisor of Accident Investigation. And I can be reached by e-mail at [redacted]

MR. NICHOLSON: Okay, so Bob, I don't think you were interviewed last time around, so --

MR. DONALD: No, I wasn't.

MR. NICHOLSON: Okay. So maybe we should start with just some background information from Robert here, and then we'll move into maybe some more specific questions, but just to start with.

INTERVIEW OF ROBERT DONALD

BY MR. NICHOLSON:

Q. Can you tell us a little bit about your background? When did you start working for Enbridge? What capacity?

A. Okay. Just the start of Enbridge, not before?

Q. You can go back, if you want.

A. Okay.

Q. In your previous experience.

A. Okay. So I'm originally from Montreal Quebec. Came to Edmonton in 1977, worked for Texaco Resources, Canada, for seven years. Transferred over to Shell Scottford Refinery, Saskatchewan. Worked there for 3-1/2 years. Started with Enbridge in May of 1985 as an operator.

Q. As a liquids --

A. Liquids pipelines operator, correct.

Q. Okay. And can you go on from there? Pipeline operator you went to --

A. Okay. So my role as pipeline operator ranged from that May of 1985 up until probably just trying to think of when I went up to shift lead. Was in the fall of 2004. And I've been shift lead in the control center since that time.

Q. Okay. And can you kind of walk us through daily activities for the shift lead? What is it you do? Who do you interface with?

BY MR. CHHATRE:

Q. Can I ask him --

A. Sure.

Q. Can you elaborate on 1977 from Texaco what did you do there (indiscernible)?

A. I was a --

Q. (indiscernible) experience.

A. Right. I was a refinery operator for Texaco, Canada.

Q. About '77 until?

A. 1983.

Q. Okay.

A. And 1983 to May of 1985, I worked with Shell Canada, Scottford, Saskatchewan. That was the new, the first synthetic refinery of its kind.

Q. In what capacity?

A. As a refining operator.

Q. Okay. Thanks.

A. You're welcome.

BY MR. NICHOLSON:

Q. Just kind of getting a feel for what kind of duties you perform as a shift lead? Who do you oversee? Can you give us kind of a typical day of a shift lead?

A. Okay, well --

Q. If there is one.

A. There is no such thing as a typical day. Okay. So from the morning turnover, basically we have -- I think presently we have 22 consoles in the control center. And what we do in the morning is we usually decide -- we basically break the room down with my partner, we'll basically break the room down to -- we'll cover half the room each. But that doesn't supersede anything. If we get busy, the other shift will take over. So the day starts out basically with a review of the previous night's shift, ongoing events. Some recorders to note that may impact rate, line shutdowns and such. Just heads up for the day. And then from that point on, we'll be getting into our morning reports. So we'll be doing ongoing and daily status of ongoing events.

Q. Is that CMT reports?

A. Well, no, no. This is the administrative report that we do.

Q. Is that passed down, same as shift change or?

A. It's passed down in the morning.

Q. Okay.

A. Basically we'll review that from the previous day.

Q. Okay.

A. Okay, so and then like I said the 7:00 gauge hour, CMT report should start. So after the 7:00 reports, we'll do a verification on all pipelines and terminals, make sure everything

is balanced. After doing that, we'll probably sit in to doing a fact man report. Sort of a facilities management report. It's just a recording of lockouts, work-related issues, rate loss issues from the previous days. We'll update those and send those off to a distribution list mostly in Calgary and in the tower.

Q. Okay.

A. Okay.

Q. When you're on duty, are you typically -- we've heard, and I think you mentioned that there's two halves. The shift leads kind of split their duties.

A. Um-hum.

Q. Are you -- is it always at your pipeline and the other --

A. No, no. We swap back and forth because of the shift three days and two nights.

Q. Okay.

A. One will cover basically one-half of the room for the three days and then the other half on the nightshifts.

Q. Okay.

A. Yeah, so that way we stay sort of current --

Q. Okay.

A. -- in most of the consoles.

Q. So what kind of training is there for shift lead? Can you tell me what they -- what you have to do?

A. Well shift lead's duties are basically scheduling the

operation of shifts. So we do that on a month-to-month basis. We schedule -- we each have an assigned group, and we schedule their shifts, vacation requests, and such, so and maintaining, daily maintaining of the schedule for people that call in sick.

Q. But as far as training that you've had in order to become a shift lead, is there anything --

A. That stuck out?

Q. Yeah. I mean what was required for you to move from operator to shift lead?

A. Experience.

Q. That was it?

A. Yeah.

Q. And you had plenty of that.

A. Yes.

Q. So there wasn't any extra training you had to do?

A. When I took the job, the role was being sort of redefined from more of a technical oversight to a people leader.

Q. Okay. We're hearing that.

A. Yeah.

Q. Okay.

A. So along with the administrative duties, the reporting, the people leading aspect of the job, that would entail a number of different courses that the company sponsored for -- coaching courses.

Q. Okay.

A. Yeah, those type of --
Q. Soft skills.
A. Soft skills. Team building.
Q. When you were an operator, did you operate Line 6?
A. I did operate Line 6.
Q. Okay.
A. I was one of the Group 1 operators, correct.
Q. Okay. So your background is technical? I mean you've had a lot of experience on lines. You feel comfortable.
A. Pipeline operating, yes.
Q. Coaching and --
A. Um-hum.
Q. Troubleshooting. So if we moved up to the day of the 25th, can you just kind of give me an overview of the events on the 25th starting around the time of the shutdown maybe --
A. Okay.
Q. -- and walk us through that, your involvement.
A. Okay.
Q. Going back a ways, but.
A. Yeah. Well, from what I remember, it was a pretty slow day. It was a Sunday.
Q. Can you start with when did you, when did you come in? Were you in at 6?
A. Yeah. We were down on the dayshift.
Q. So you got in around what time?

A. Around 6:00. Yeah.
Q. Okay, 6:00. And that was mountain --
A. Mountain Standard, yeah.
Q. Mountain Standard, Mountain Daylight.
A. Was it in June?
Q. July.
A. July. Yeah.
Q. Go ahead. I'm sorry.
A. Everything is in pipeline time for us.
Q. Is it?
A. Yeah. So anyways, yeah. So like I said it was a pretty slow day, and wasn't a lot going on. I remember getting up and going to the washroom -- no (indiscernible). The Line 6 operator had talked to me in the morning with regard to the Line 6B activities for the day. They had a delivery scheduled to go even at Stockbridge.
Q. And I just want to clarify.
A. Yeah.
Q. Is this Dave Scott or --
A. Yes, that's Dave Scott, yeah.
Q. Go ahead. I'm sorry.
A. He just asked me what I thought. They were going to go even at Stockbridge and go down, start a delivery in Marysville. And I think the line was scheduled to go down an hour after that, okay. So the discussion was -- didn't seem -- it didn't seem

smart to actually get the Marysville delivery to open and then close and then open it again later. So I said give the (indiscernible) in Calgary a call, tell her about that, and see if they can -- instead of going even at Stockbridge, just have going down to Marysville, just go even at Stockbridge or shut the line down after that. So far as I, far as I know, I think that was done.

Q. You said as far as you know.

A. The conversation with between Dave and the (indiscernible) yeah, I think that conversation took place, and, yeah, so they -- it was determined that the Line 6 would go down. Line 6B would go down after the Stockbridge delivery.

Q. So he didn't come back to you or close the loop? That was -- or do you know?

A. No, I don't think so. I don't think -- like I said, it just seemed like an intelligent way to progress rather than, you know, getting the Marysville delivery guy to go open up meters and then have him close them off an hour later only to do it again. So it just seemed, you know, rather than have that delivery go through a redundant cycle, just go even -- just finish the delivery at Stockbridge.

Q. Okay. So was he seeking your approval or just --

A. That was --

Q. -- getting your input?

A. I said, yeah, it's a good idea.

Q. But he didn't needy our approval to do that?
A. No.
Q. Okay.
A. No.
Q. And he didn't need to come back to you and update you on the new schedule?
A. No.
Q. And he did not?
A. I don't believe he did.
Q. Okay.
A. So the -- okay, so the -- I never -- all I remember from the actual event itself was I wasn't in the room. I think I was in the washroom. Anyway, so I had come back.
Q. That's outside the control center?
A. Yes.
Q. Okay.
A. It's outside. Yeah, that -- I don't know if you -- there's a washroom just outside the back door.
Q. Okay. Yeah, we did visit it.
A. Yeah. So when I came back in, was going over to my console, my partner told me that 6B had shutdown, and there was a five-minute alarm.
Q. And that was --
A. An MBS alarm. Sorry.
Q. Right. And your partner, your other shift lead was

Allister.

A. Allister, correct.

Q. Okay.

A. Yeah. And I said, okay. And as I said, I'm walking by the desk. I sat in my chair, and the MBS analyst, who sits right next, right next to our console, he had turned around and said, Bob, it was a column separation, and it's cleared.

Q. Okay. So by then it had already cleared?

A. It had already cleared.

Q. At the time (indiscernible)?

A. Yeah.

Q. Okay.

A. So I don't know exact time when the alarm came in. I'm assuming it was probably within a couple of minutes that I was outside the room. But like I said, so I sat back and got into my e-mail again.

Q. So really you did nothing more with it.

A. No.

Q. Okay. You didn't go talk to Dave at that point?

A. No.

Q. Okay.

A. No.

Q. Didn't pull trends?

A. No.

Q. Didn't pull alarm logs?

A. No.
Q. And that's because it cleared?
A. Correct. Had there been anything further, the operator would have probably come and talked to me about it. Or the MBS analyst may have come and talked to me about it. But as far as that event was concerned, the line was shut down, buttoned up. That was the end of it.
Q. Okay. And you've got 20 years or so --
A. Um-hum.
Q. -- experience as an operator yourself. So would that be typical to see an MBS alarm on a shutdown like that on six?
A. Yes.
Q. Okay.
A. They can happen.
Q. Did you know where on the line that MBS alarm had occurred?
A. No.
Q. Okay. You didn't even think to ask?
A. No. Like I said, the MBS five minute alarms are somewhat common.
Q. Okay.
A. Usually on startup and shutdown.
Q. And it's common that they'll clear themselves?
A. The analysts will tell us when they're clear, yeah.
Q. Okay. Do they always clear when it's a line shutdown?

A. It's hard to say. Sometimes the analyst will explain it if it's not going to clear, and they'll tell us that the column will come together again on startup, and at that point it would probably clear.

Q. Okay.

MR. NICHOLSON: All right, Karen, do you -- I think I'll pass it off to Karen at this point.

MS. BUTLER: Okay.

BY MS. BUTLER:

Q. Bob, can you clarify just a couple of things for me before I --

A. Sure.

Q. -- get into another set of questions. And that would be you mentioned refinery operator and also a refinery operator Texaco and Shell. Were you actually at a console doing something similar or were you like out in the refinery turning valves, adjusting things?

A. Okay. So in the '70s there was very little in the way of consoles.

Q. Right.

A. From oil refineries. So the job is basically outside.

Q. Okay.

A. And I operated -- do you want to know the units I've operated or --

Q. No.

A. No.

Q. I just was curious as to whether you were interfacing with computer equipment and technology at that time the way you are now?

A. No. Not until Shell Godford.

Q. Okay. And at Shell did you move into like a similar --

A. Okay. At Shell Godford, the refinery setup is basically a north and south control center.

Q. Okay.

A. Consoles similar to what we have in the control center.

Q. Okay.

A. And there is that interface with Foxboro instrumentation.

Q. Okay.

A. (indiscernible) computers.

Q. Okay. Thanks for that clarification.

A. You're welcome.

Q. Sometimes people call things different, and --

A. Oh, sure.

Q. -- I just wanted to make sure I had a good handle on what you're telling me.

A. Um-hum.

Q. You mentioned also previously that sometime around 2004 you became a shift lead, right?

A. That's correct.

Q. And then you mentioned that about that time it began to shift from technical oversight to more people leading phase?

A. My interview for the shift lead position, I was told that the -- because of the rapid growth and due to the consolidation --

Q. Uh-huh.

A. -- the control center was looking at probably moving a little bit of the responsibility from the technical oversight to people leadership.

Q. Okay.

A. And the candidates like for myself, like I said, I'm very much into team concept.

Q. Okay.

A. That came from Scottford.

Q. Okay.

A. The supporting team members.

Q. Uh-huh.

A. You know, covering when the workload is high.

Q. Right.

A. That type of stuff. So we were told that that was the role that we were going to slowly move into.

Q. Okay.

A. And that the company would offer courses to help us through that, and these were basically as I think Dave said soft skills --

Q. Okay.

A. -- with regard to team building, team concept.

Q. All right.

A. Communications.

Q. Okay.

A. Yeah.

Q. Do you remember who interviewed you?

A. My boss was at time Al Baumgartner, Alan Baumgartner.

Q. Has he retired?

A. No. He still works with Enbridge.

Q. Okay. All right. And do you know whose idea that was?

A. The company was shifting in that direction in the '90s. We had -- the whole company -- we were taken up to a three-day course in the Rockies.

Q. Okay.

A. And it was all about team building, leadership, how people could use various skill sets to support the common cause.

Q. Okay, all right.

A. And so we had had that introduction.

Q. Okay. When they opened those positions up, was any controller in the room allowed to take a shot at that?

A. Yes, I believe so.

Q. Okay. All right. As a result of that being opened up and people being filled, were there any lingering issues in the control room with the people selected versus others that may have

applied?

A. Office politics.

Q. Got it.

A. There's always office politics.

Q. Okay. So to your knowledge, has that influenced how the control room functions at any time?

A. I don't think so.

Q. Okay.

A. The common goal is to get product to the customer.

Q. Okay.

A. I think everybody that works there understands that concept.

Q. Okay. All right. So I think that's all the clarification I needed on things that you previously told us. So we'll move into the types of things that we've asked other people when we've asked Curt to be out of the room, okay?

A. Oh, sure.

Q. And one of the things that we made the mistake with in other people that have helped -- it's been helped clarified through the record, is that, you know, we want to make sure that you recognize that if you say something that could be viewed as a bit sensitive in that it could come back and ding you because you're talking about your supervisor, we have the right to redact that, okay. So meaning we just make it so it's not viewable, all right?

A. Um-hum.

Q. The only other person obviously that would know that is Jay sitting in the room, right?

A. Right.

Q. So if you have an issue with that before we start, you need to tell us. Do you?

A. Depending on the questions, I guess.

Q. All right. Well, we're going to be talking about whether or not you think you've had adequate leadership and roles and responsibilities, the people that have been suspended. And that's going to be the general crux of it. The rest of it -- oh, bonus and metrics. The rest of it will be more along the line of a couple of ideas to potentially prevent this from happening again, some SCADA functions. So knowing those general topic areas, are you okay?

A. I think so.

Q. Or do you want us to ask Jay to leave?

A. Oh, no.

MR. NICHOLSON: Or at any time if a question comes up, just give me the --

MS. BUTLER: Yeah, because --

MR. NICHOLSON: -- look --

BY MS. BUTLER:

Q. -- the rules are the NTSB needs them there.

A. Um-hum.

Q. And so we would need to come up with the representatives. So we would need to come up with a mechanism to get that information. Okay?

A. Sure.

Q. All right. So we're going to trust you to give us heads up if you need another mechanism, all right?

A. Okay.

Q. Okay. All right. So regarding your existing leadership, do you feel that they've been technically qualified to help you when you needed help?

A. All right, the technical support --

Q. Um-hum.

A. -- comes in the -- well, again, we have engineering --

Q. Right.

A. -- support. So if there's questions with regard to allowable pressures or work orders that don't look right --

Q. Uh-huh.

A. -- yeah, we'll get clarification from those guys.

Q. Okay.

A. I think the support you may be referring to is off hours.

Q. Yeah.

A. Okay. So we do have a -- there's a structure in place where we have an admin on call and a technical on call.

Q. Okay.

A. And so if we need technical support, we would contact those people.

Q. Okay. So has that been in place all along?

A. I would say yes, in various degrees. I think when I started, I don't think we had that kind of support. We have admin support.

Q. Okay.

A. And as the control room has evolved, we are now -- they've added the technical support aspect of it to it as well.

Q. Okay, so --

A. It's always -- Karen, it's always been there, you know.

Q. Okay.

A. It would be determined by the admin whether or not they needed to call an engineer to --

Q. Okay. So basically let me get a grip on how that might happen.

A. Okay.

Q. So say there's this on-call structure where it could be technical or administrative. Do most of your procedures reference the administrative, and then they have the choice of calling the technical or how does that work?

A. The procedures, again, do the procedures reference the technical? Yeah, they do. Notification is a big part, big part of it.

Q. Okay.

A. So any abnormal operating condition that causes rate loss or line shutdowns or a safety issue, there's usually a notification to our CCO administration.

Q. Okay. And then that CCO administration, that's not your technical lead or is that your technical on-call?

A. I wouldn't say they were the -- it's hard to say. Interpretation --

Q. Okay.

A. -- of procedure maybe.

Q. Okay.

A. We get clarification from them to, like I said, if there's a procedure that's kind of gray, we'll ask clarification from them as well.

Q. Okay. So on this 10-minute thing --

A. Yeah.

Q. -- on the 10-minute rule when it's exceeded and, you know, for a very good reason or a not so good reason, and you've got to get permission to start back up --

A. Correct.

Q. -- you've got to call somebody, right?

A. I do.

Q. And so you as a shift lead, who do you call?

A. If there's an anomaly, an MBS alarm or a column separation event that exceeds the 10-minute --

Q. Right.

A. -- the line gets shut down.
Q. Uh-huh.
A. And notification begins with the CCO administration.
Q. Uh-huh.
A. And they might determine they need technical support. It's basically like I said, the procedure says after 10 minutes.
Q. Uh-huh.
A. That we are to shut down the pipelines and notify our administration.
Q. Okay. So we've got a shutdown.
A. Um-hum.
Q. And we've got to explain the circumstances.
A. Right.
Q. So we're getting ready to call the CCO administration.
A. Correct.
Q. Is it then up to them to make the determination as to whether they ask for more technical assistance?
A. Their line of questioning might ask -- might revolve around the circumstances as to why the line is shut down, and they could probably be determined if they needed technical representation from engineering, but they would get in touch or they would ask us to get in touch with the engineer.
Q. Okay. So it's a little vague to me, and I know this is because I'm just not operating in your control room all the time, and obviously maybe the questions that I'm asking you aren't

succinct, and I'll get to that as we go.

A. Sure.

Q. Just bear with me.

A. Sure.

Q. It's not real clear to me yet how the technical on call receives notification. So is that totally within the purview of the CCO that's contacted or is that also within the purview of the shift lead?

A. This is the on-call you're talking about?

Q. Yes. Whether you're going to call the technical on-call.

A. Again, notification would go to the admin and sometimes to the technical on-call as well.

Q. Okay.

A. Yeah.

Q. So you know in our example that we have here --

A. Um-hum.

Q. -- we have a shift lead right that's contacted the on-call --

A. Um-hum.

Q. -- and I believe -- help me out with his name. Blaine, I think.

A. Correct.

Q. And I don't believe anybody else other than the MBS analyst was asked for.

A. Correct.

Q. Would you count the MBS analyst as a technical on-call support?

A. The analyst is actually on shift.

Q. Yeah. So that isn't a technical on-call that you're talking about, right?

A. No, no.

Q. Okay. So basically in that process since nobody else was on the call, they chose not to call someone else technical, is that correct? Is that the way you would understand it, that's the question.

A. Yeah, I guess.

Q. Okay. Okay.

A. Yeah.

Q. All right. So if the CCO administration is the one contacted, and they have to make the decision about whether to restart the line or not, are we pretty much contingent upon their ability to ask the right questions or do you think the shift leads help structure that? Based on your experience.

A. The shift lead would give the information as to what the anomaly was.

Q. Okay.

A. The admin would have to determine whether or not he needed more technical expertise.

Q. Okay.

A. In making the call, so.

Q. Okay. So we're kind of getting to the point that the administrative person calls pretty much have to determine whether or not they need more?

A. Correct.

Q. Okay, all right, thanks for that. Sorry it took me so long.

A. No, that's fine, Karen.

Q. Okay. Then the other question around this is your direct supervisor, that's Curt, right?

A. Correct.

Q. Okay. Do you feel that he's been technically qualified to help you directly in your role? And if that's a question you don't want to answer, just say I'd rather not answer, okay. If you want to couch that regarding things that you could suggest could be improved, that's okay too.

UNIDENTIFIED SPEAKER: (indiscernible) use the bathroom for a minute here.

MR. DONALD: No. Curt is technically qualified, but I would not give it upon Curt to make a decision which might require maybe an engineering support.

BY MS. BUTLER:

Q. Okay.

A. That would be Curt's call.

Q. Okay, all right. Okay. When Curt has given you

objectives and performance reviews in the past, what types of things does he target with you?

A. Leadership and support.

Q. And what does support look like to you? Or can you describe what support would mean when you say that?

A. Support would mean team building within the room, establishing, breaking down communications barriers. So there's a number of different initiatives that shift lead will take upon themselves to get their teams to communicate better. You know the interaction within the control center is pipelines and terminals, and so to -- in order to avoid confusion and errors, we hold weekly communication sessions on our shift. I don't know that that's prevalent across others. And we believe we've had some success in mitigating some of the admin errors and some of the degradation errors and some safety errors by keeping that communication line open between -- and so --

Q. Can you give me an example of like where you think it was just -- you don't have to mention names. Example of how it was improved because of those meetings.

A. Okay. So the meetings usually -- we usually discuss abnormal operating conditions that led to an error.

Q. Okay.

A. Okay. So we will even ask operators to talk about the errors themselves so that the other operators are aware, and they'll learn from it.

Q. Okay.

A. So we have a very awareness database in which we have bulletins and reports, basically around administration errors, degradation and safety.

Q. Okay.

A. And we get our operators to talk about those on shift in a general meeting.

Q. Okay.

A. These meetings are anywhere from 10 to 15 minutes. Sometimes they go longer. But the idea is to invoke response, get them engaged.

Q. Okay.

A. And get them to support each other.

Q. Okay, so are you kind of sharing lessons learned?

A. Exactly.

Q. Okay.

A. That's the whole point.

UNIDENTIFIED SPEAKER: I missed that. How often do you do that?

MR. DONALD: We try to do it once a set.

UNIDENTIFIED SPEAKER: What is a set?

MR. DONALD: A set would be a shift, 3 days, 2 nights, yeah. Usually on a nightshift.

BY MS. BUTLER:

Q. Okay. And so is there a particular lesson learned that

stands out in your mind that got shared that was beneficial?

A. So getting back to the meetings, we might talk about an operator awareness event and get operators to share and have input into that. The other part of the meeting is to share successes as to what we're doing right and what we can improve upon. So my understanding in any business today is communications is top priority. The right hand last to know what the left hand is doing. So it's to break down these silos, not just -- I know that sounds -- it's probably very similar. All the business books -- breaking down the silos within a company. We're (indiscernible) breaking down the silos within the control center.

Q. Okay.

A. And so we're trying to establish maybe a social interaction. Not just one where the operator is going to call the -- pipeline operator is going to call the terminal and ask them to open valves so, you know, to preset for the next delivery or, you know, for those type of events. So is that what you're kind of looking for?

Q. Yeah, I think so.

UNIDENTIFIED SPEAKER: Quick question.

MR. DONALD: Sure.

UNIDENTIFIED SPEAKER: If you don't mind, Karen. The idea of this schedule change was to avoid multiple stops, starts, you know, that Dave approached --

MR. DONALD: Oh, yeah, yeah, yeah.

UNIDENTIFIED SPEAKER: That sounds like something that to me that sounds like a good thing that was -- initiative. Is that the type of thing that --

MR. DONALD: Yeah, that's a heads up type of thing that an operator would come up with and say the schedule has a, you know, looks like a redundant type of a shutdown startup. So to avoid cycling we just -- instead of doing it twice, you just do it once. And so that is kind of an initiative with the control center operators is to avoid cycling the lines. So there are calls from operators going to Calgary Shipper Services on schedules to work it out so that pipelines don't have to shutdown. That we can do an injection delivery and go even at the same time. And so those type of things are like the heads up type of operations. And we give kudos for those guys for doing that.

BY MS. BUTLER:

Q. Okay.

A. Yeah.

Q. All right. So as you've been working on this, since you rotate, right, between pipeline and terminal, it's like --

A. No. We -- there's pipeline terminals on both sides. Yeah, it's not one or the other.

Q. Okay, well, yeah. I'm not saying this right. Okay. Since I understand that you as shift lead rotate the part of the room that you cover --

A. Yeah. There's pipeline and terminals on both sides.

Q. Yeah, okay.
A. Yeah.
Q. So as you rotate the part of the room that you're covering, you're eventually working with everyone, is that correct?
A. That's the intention, yeah.
Q. Okay. So when you talk about your trying to build team -- or trying to improve teamwork --
A. Yep.
Q. -- within an area, do you view the whole control room then as how you're being measured, not like a subset of the control room?
A. I view our team, the measurement that at the end of the year when we sit down and do our performance as to how well our people have performed. And my boss will tell me how well I've performed in my role.
Q. Okay. So your team is really the control room, is that correct?
A. That is correct.
Q. Okay. So talk to me a little bit more about how you're measured. Some of the specifics. You mentioned that you have a goal of breaking down communication barriers.
A. Correct.
Q. So what else or what are some of the other things that you're evaluated on?

A. You're talking about my evaluation?
Q. Yes. Your performance evaluation.
A. Okay. My performance would probably be evaluated on how well I've done my administrative role. So the number of reports that come to me and go out to various other departments and their accuracy. And then the development side of it. I don't know if you know about our performance document. It's a (indiscernible) of on the job and development. So the development role would entail taking courses to extend the leadership role to make it better, continuous improvement along that line.
Q. Okay. Since the line 6B event, have things changed for your role?
A. No, not my role.
Q. So your roll pretty much stays the same?
A. That is what I think I bring to the job.
Q. Okay.
A. Is that role. It's like a life coach.
Q. Uh-huh.
A. It's not about just what you're doing on the job. It's what you're doing in your life.
Q. Okay.
A. And getting people to understand that in the workplace. Because it gets muddied up from time to time with people's personal lives and their job and their schedule.
Q. Right. Okay. So we've had some other discussion with

other people obviously, and some people are like doing imbalance calculations for the first time or looking at what might be a column separation calculation. Was that going on for you all along?

A. No, it was not.

Q. Okay. Is that new, a new requirement for you or not?

A. It is.

Q. It is. Okay. So --

A. Could I add?

Q. Oh, yes.

A. Prior to doing the calculations that we're now involved in, the typical way to measure the time to bring a column back together on a column separation was based on probably how much line had drained on shutdown.

Q. Okay.

A. And so that was probably figured into the calculation. Was just another way of measuring or getting a sense of time to put a column back together.

Q. Right.

A. Yeah.

Q. Okay. So now you're doing those types of things, which is more technical, right?

A. Correct.

Q. But so you've added some technical responsibilities while you were still performing leadership skills?

A. Correct.

Q. Okay, all right. So has anything else besides this little imbalance issue regarding column sep, has anything else changed that you've become more technical in? Not that you didn't always have that ability. Clearly you've got a good background for it anyway, but that has changed as far as responsibility since Marshall.

A. I would say that aspect of the technical aspect that we are now undertaking.

Q. Okay.

A. Yeah. Is -- yeah, is probably the, I guess the technical side of the support we're going to bring. The operators will still have to do the calculations. My understanding is we will support the operator in verifying those calculations.

Q. Okay.

BY UNIDENTIFIED SPEAKER:

Q. I'll just clarify that. So the column separation calculations, those are actually being done by the operators?

A. They will be done by the operators as well, yeah.

Q. And you will --

A. Every operator will be doing that type of calculation, and we'll try and verify those calculations.

Q. Okay. So operators perform (indiscernible) then you have to go and QC it?

A. Yeah, it's the -- okay. So this is going back to the

self-imposed 10 minute. If a column separation is calculated to go beyond the 10 minute, yeah, we'll be involved with that.

Q. Oh, okay.

A. Yeah.

Q. But if it's anticipated to close up within the 10, there's no extra work for the shift lead?

A. I haven't really -- again, that's new.

Q. Okay.

A. So, yeah, so the role of us, of the shift lead in that calculation now, really hasn't been defined to us yet, yeah. It is to be clarified shortly, I think.

BY MS. BUTLER:

Q. Okay. So the technical aspects of what you're doing that may be changing --

A. Um-hum.

Q. -- may be in the process of changing, and so that's not all clear yet?

A. I think the formula for doing the calculations, I think there's going to be some clarity with regard to that.

Q. Okay.

A. And then the role of the shift lead in that calculation and that will be clarified again too, so as of right now it's still ongoing.

Q. Okay.

A. Yeah.

Q. Okay. Here's the other aspect I don't quite understand.
A. Okay, sure.
Q. For example, a lot of -- well, some of the shift leads do not know the particular consoles, right, that they're overseeing, and as a result of that, if there's a problem that comes up and they go to the shift lead, there may not be the technical ability there to support them the way they need that. What's your take on that?
A. The statement is with regard to the shift lead's role in determining an abnormal operating condition. The operator would have to bring that to our attention. So our range of experience in that would be to sit with the operator, to walk through the flow diagrams, the instruments, (indiscernible) whatever, to whatever was affected. To interpret the alarm or the whatever it is that they asked us about. We don't have the operating experience on all of the consoles.
Q. Right.
A. Some of us have pipeline, more pipeline experience, and some of us have more terminaling experience.
Q. Right.
A. Yeah.
Q. Okay, but for example, if we had the same situation at Marshall occur again and particular shift leads didn't really know some idiosyncrasies about 6B, then they might still not have a clue that Marshall's pressure had gone below normal, right?

A. That's -- yeah, it's possible. The operator would have to interpret it to the shift lead to say that he's got an issue with the way the line shut down or the way he's interpreting an anomaly, a perceived anomaly. So he would ask the shift lead for maybe some guidance on how to resolve it.

Q. So I'm just curious. If the operator has to bring it to your attention --

A. Yes.

Q. -- then what is the value for you to the operator? I just want to hear that from your perspective?

A. The value for me from an operator would just, again would be just based on the experience. So if he had an anomaly that he didn't understand or that he thought that needed someone else to look at it, like I said, I could probably help him on that. And, if I couldn't, I would get support to help him.

Q. Who would you get support from?

A. Well, we have a whole range of different support. Technical on-call, telecon, SCADA, CMT.

Q. So are you capable of looking at his trends?

A. Am I capable of looking at his trends? Yes, I am. I should be able to bring those up, yeah.

Q. So if an operator came to you and said I've got X problem, I'm swamped over here, I've got another line that's giving me a fit, can you look at this, would you pull up historical trends?

A. Yes.

Q. Okay. Before you leave for shift, would you now take a look at the pressures on the systems you're responsible for overseeing?

A. So -- I don't understand that question, Karen? You'll have to be a little more clear. Before I leave shift?

Q. Yes. Yes. I'm --

A. So before I do my turnover?

Q. Yeah.

A. Okay. So I want to tell you that there's like 35 pipelines in there.

Q. Right.

A. And like about 20 terminals.

Q. Right.

A. There's no way that I can go over everybody's pipeline or terminal operation to determine if there's any issues.

Q. Okay.

A. The operator has to tell us what the issue is.

Q. Okay. But if the operator doesn't recognize it, then we're right back to where we started from, right?

A. If it's not brought to our attention, if the operator has missed -- yes, you are correct.

Q. Okay. So the only thing that this new possibility of imbalance is going to fix is the fact that if we definitely have a column sep, the we're probably going to have a better handle on

the volume associated with that. Is that --

A. That is correct.

Q. Okay. So I'm curious as to how it is that the shift leads are allowed to input pressure allowables, right, limits?

A. That's correct.

Q. Is that part of what you do every --

A. When new shift allowables -- or pressure allowables come down, yes, we have the, we have the (indiscernible) put it in. We have the permission to put those pressures in, correct.

Q. And yet the operators are required to recognize that something violated those, right?

A. Okay. So you're jumping ahead here.

Q. I'm just trying to fit the picture together.

A. Okay. So when we put the pressure allowables in --

Q. Right.

A. -- those are the new pressure allowables for that -- those stations or that set of --

Q. Right.

A. -- portion of the pipeline, correct, yeah.

Q. Okay.

A. Okay. So now we usually let the operators know that we're changing those pressures.

Q. Okay.

A. Especially if they are drastic. So anywhere from probably 50 to 100 pounds would be probably considered drastic. I

would give the operators in that console a copy of those pressure allowables and a heads up to review your new pressure allowables so they don't violate them.

Q. Okay. All right.

A. A lot of the pressure allowables that do come in from time to time only deal with small, a small percentage, 5, 10 percent maybe.

Q. We'll just get back on track here.

A. Sure, sure.

Q. I've kind of let us get off on another topic. So on your metrics that you would have based on how you're evaluated, you mentioned communication improvement. What else -- what's the firm -- you know that's difficult to measure. So what's a firm measurement that they would say look at to evaluate how your team is performing?

A. The number of errors on our shift.

Q. Okay. And the number of errors can be found in what?

A. We have a log. So any time there is an operator error, there is a process the operator has to go through with recognition of the error and how to mitigate it from happening again.

Q. Okay.

A. Okay. So that's kept. The time of the error is logged.

Q. Okay.

A. And the type of error is logged.

Q. And what's that log called?

A. That is our event analysis.
Q. Okay. All right, and so you basically have that on a daily basis, is that correct?
A. Errors don't occur on every --
Q. Okay, but so whenever it occurs.
A. Yeah.
Q. Okay.
A. Yeah.
Q. Okay.
A. Yeah, we would look at the total number across the whole room.
Q. Right.
A. And break it down on shifts.
Q. Okay.
A. Yeah.
Q. Right. So shifting gears for a minute.
A. Yeah.
Q. How do you evaluate those reporting to you? I assume you have to do some performance reviews.
A. I do.
Q. And since you -- do they like randomly pick who you do every year or --
A. We're assigned anywhere from 10 to 15 people.
Q. Okay. And that stays consistent from year-to-year or does it --

A. Some of them do. Because some of them move.
Q. Okay.
A. Some of them move off shift.
Q. Okay. Got you. So how do you evaluate the 10 or 15 men that are assigned to you?
A. Again, when I sit down with my people to do the -- most of the performance evaluations are done on a 90 percent on the job 10 percent development.
Q. Okay.
A. Okay, so and we'll walk through the highlighted areas. So an operator is going to report back to me on his performance, his day-to-day activities.
Q. Okay.
A. I basically understand what those day-to-day activities are. The *Journal of Pipeline*. The outstanding things are what he's done to improve performance on the console, not only for his own but as well as his console group.
Q. Okay.
A. So I would look for those type of highlights.
Q. All right.
A. And award my rating based on those, and also his development objective would basically be a learning tool or given the -- all the different ranges of personality types we have in there, somebody who is basically a wallflower coming out and actually giving a PowerPoint presentation to the shift, that's

huge for people to do that. So those type of things I would value quite highly, that those people are trying to change and better themselves in that respect, so.

Q. Okay. And then I assume that all of this kind of feeds into some type of bonus structure or?

A. It does, yes.

Q. Okay. And so how does that kind of work? Your overall rating goes in and --

A. It goes into a calculation and there's, I think there's three numbers the company uses to measure.

Q. Okay.

A. Yeah.

Q. All right. So do your shift lead -- or I'm sorry. Do your operators evaluate you?

A. I believe that there are questionnaires sent to them with regard to our performance, yes.

Q. Okay. Is that something new or has that been around?

A. I think that's ongoing. It's not just the operators. It's also the other people we interact with as well.

Q. Okay.

A. It might be some support personnel from IT or telecom.

Q. Okay.

A. Shipper services. They might ask for feedback on us.

Q. Okay.

A. Yeah.

Q. All right. And I take it that that feedback's covered with you or do you really --

A. I don't know if it's always covered with me, no.

Q. Okay.

A. There are some that I am aware of.

Q. All right.

A. Yeah.

Q. Okay. Did your last performance review have any identified issues for improvement?

A. My last performance evaluation was basically just to keep on doing what I'm doing.

Q. Okay. Moving off of that for a little bit.

A. Sure.

Q. Do you view the MBS analysts as technical experts?

A. He's not an engineer, but he should be the expert on the MBS model.

Q. Okay. So if an MBS analyst had come to you and told you there was column sep in the past, would you have accepted that?

A. Yes.

Q. Would you accept it now?

A. I would have to look at the model.

Q. Okay.

A. The portion of the model that we look at. It basically just gives us elevation head and flow.

Q. Okay.

A. So if I'm looking at the model and I see that the head pressure has intersected on the elevation profile --

Q. Okay.

A. And he was telling me that there was column sep in that area, I'd be inclined to believe him.

Q. Okay. So in regards to the MBS analyst and your interaction --

A. Um-hum.

Q. -- okay, and how has that changed?

A. Today?

Q. Yes.

A. I think in the past the experience we have with the analyst was they would probably get into more of an interpretation at times with the operators and shift leads as to what was happening.

Q. Got you.

A. So there was, there was cross-education going on, which was good. I think now we are just asking the MBS analyst to verify that the model is up and running properly, and if it's not, we have our 10-minute self-imposed.

Q. Okay. Is that working better or has it not been there long enough to know?

A. Well, Karen, with MBS when it first came in, there was no analyst in the room.

Q. Okay.

A. It was an on-call.
Q. Okay.
A. So the reason for bringing the analyst into the room was to get rid of that telephone call.
Q. Right.
A. And avoid all the pipeline shutdowns that we've had in the past based on not being able to get in touch with the analyst in time, given our 10 minute. So with the analyst in the room, I think personally myself, and this is just personal, that we've remedied along with the pipeline cycling we did in the past based on not being able to get in touch with them.
Q. Okay. So now kind of we're -- they're closer, so we can --
A. Yes.
Q. -- cycling issue addressed. But by making this last transition, we're kind of going back to how we had it before.
A. Well --
Q. No?
A. -- no. He's still in the room.
Q. Right.
A. Like I said. So we are, we still are addressing that cycling.
Q. Right.
A. But our question to him is just to verify the model.
Q. Yes.

A. It's not to get an in-depth explanation as to how the model is arriving at the numbers that they're looking at.

Q. Okay. So is that something that in the past when you would have picked up the phone call or picked up the phone and called them, would they have just told you whether it was working or not?

A. Correct.

Q. Okay. So it's -- in that respect, the response now by the analyst is closer to what it used to be.

A. Yes.

Q. But you're going to prevent cycling by having the best of everything, right? You're going to have them in the room --

A. Yes.

Q. -- so you can reach them.

A. Yes.

Q. Okay, all right. All right. What other changes have been made since the -- in the control room since the 6B event?

A. Aside from the fact that we're working a ton of overtime?

Q. Yeah.

A. There really hasn't been a lot of other changes. The 6B one was devastating for the people involved, and like I said, it was in the whole room. I think everybody had some feeling of guilt or remorse on account of it. But like I said, there's 25 different pipelines or 30 different pipelines in there. So we

have to get on with it. Not to ignore the fact. Lessons learned are that we are probably going to be more technically astute in the future.

Q. Okay.

A. Yeah. So this won't happen again.

Q. Okay. Did they do anything about console workload?

A. I think that issue is always being addressed. We have addressed console workload on a number of different terminals.

Q. What do you look at to address that?

A. The console workload on six has been addressed as well. There was another pipeline that was on that console that has since been assigned to another console.

Q. Okay. And which pipeline was that?

A. That was Line 3.

Q. Okay. All right. And so when you said that you continuously are addressing console workload --

A. Correct.

Q. -- types of things that you know have gone into those types of reviews?

A. Well basically it comes from the operators and their stress on the workload. And there are times of peak workload on every console.

Q. Right. Got you.

A. So typically weekends and nightshifts there's less phone calls.

Q. Okay.

A. But on dayshifts, just about every console in there is pretty busy.

Q. Okay.

A. Yeah. So we typically in the past we had our Superior Terminal Console. That broke down into two consoles.

Q. Okay.

A. Was at one time run by just one operator.

Q. All right.

A. Our Edmonton Terminal Console is broken down --

Q. Okay.

A. -- into two consoles from one. Our (indiscernible) Terminal Console is broke down from one into two now, so.

Q. Okay.

A. So as workload increases, the consoles will probably get broken up, and I think like I said, some of that workload will be distributed a little bit better.

Q. Okay. So, so far those types of things that I've heard you comment on besides the operator stress level and their response, I'm sure you can tell, is phone calls.

A. Yes.

Q. Are you looking at alarms?

A. Alarm management is part of it, yes.

Q. Okay, all right. What other types of things? Like training or --

A. I know on the terminals, they've introduced what they call swing panels.

Q. Okay.

A. So the operator isn't forced to go across a number of screens looking at flow pass.

Q. Okay.

A. Everything would be up on the swing panel with regard to the valves, booster pumps.

Q. Right.

A. So in that way, they would probably mitigate some of the admin errors that they've had in the past.

BY UNIDENTIFIED SPEAKER:

Q. I'm sorry, a swing panel?

A. Yeah.

Q. What is that?

A. Okay. A swing panel would identify all the valves, boosters involved in a swing. Tanks.

Q. Oh, okay.

A. Yeah.

Q. Call it a swing.

A. A swing panel, yeah. So the panel would identify the tanks involved.

Q. Okay.

A. The valves involved on the flow path going from a manifold to a tank.

Q. Okay.
A. Okay. And the pumps.
Q. So it's just a special display that comes up?
A. Yeah.
Q. With just those critical components --
A. For doing --
(Simultaneous comments.)
A. -- yeah, correct.
UNIDENTIFIED SPEAKER: Is that just for a terminal or is that --
MR. DONALD: Just for terminal, yeah.
BY MS. BUTLER:
Q. So since you guys operate Stockbridge, is that on -- something that changed on one of yours as well on six?
A. There's no swing panel on Stockbridge.
Q. Okay.
A. No. Stockbridge is only three tanks.
Q. Okay.
A. So for some of the more complex terminals that have 30, 40 tanks, you would have a swing panel.
Q. Got you. Okay. So moving onto a little different -- around changes in the control room --
A. Um-hum.
Q. -- when people were actually taken from the control room was it explained why that happened?

A. I believe so.
Q. Okay. What was the explanation?
A. That they were just removed from their -- for their duties while the investigation, the NTSB investigation and the internal investigation took place.
Q. Okay. And was that don't prior to much being done in-house to your knowledge?
A. I'm not sure what you mean, Karen.
Q. Okay. Was that done prior to much investigation, internal investigation work being completed or being in progress?
A. I'm thinking that people that were directly involved in the event --
Q. Uh-huh.
A. -- they were taken off shift.
Q. So you mentioned that you're working a ton of overtime?
A. Correct.
Q. Is that everybody in the control room?
A. No. The shift lead group. We've lost two, and actually we had another one quit there during the summer. So we're covering a number of shifts. And it goes in peaks, Karen. Right now because it's getting into the Christmas holidays, there's more people that schedule vacation around this time, so there would be more overtime coverage.
Q. Okay.
A. Yeah.

Q. What's been your max hour day? Do you know?
A. My day is basically a 13-hour day. I stay a little longer than some of the others.
Q. Okay.
A. Just to interface with the shift leads coming in on shift.
Q. All right.
A. Yeah. So we see the people going out in the morning, and we see the people coming in at night. So we try to get that interaction so you'd have a group of at least six shift leads to talk about issues within the room, within -- with regard to certain individuals and various strategies going forward.
Q. All right. So since they lost two, have they just -- they -- have they moved anybody else into the shift role or they just -- making do with the existing rotation that they had?
A. No. We have two new people coming in. One starting in January, and I think one starting a little bit later on, possibly in the spring, I think.
Q. And are those people that have been in the control room before?
A. Yes. They're currently operators within the control room.
Q. Okay. Is that on a permanent basis?
A. Their assignment?
Q. Yes.

A. As far as I know.

Q. Okay, right. And I think that's probably -- one more question --

A. Um-hum.

Q. -- would be, before we have anybody else come back in the room --

A. Sure.

Q. -- and that would be if you -- well, our complete assignment is that we want to make sure that in this investigation we discover those things and make sure implementation of those things that could definitely prevent this from happening again are uncovered.

A. Right.

Q. And we want to make sure that, you know, people's safety is our first and primary.

A. Yes.

Q. We also understand that everything we do has an impact on other people that work for Enbridge too, right?

A. Um-hum, correct.

Q. So controllers matter. And so one of the things we'd really like to hear from you is your take on what could have prevented this in the future. If there are specific changes that you think could be helpful, that we hear that, and you have an opportunity to tell us. So in that regard, is there any couple of things or one thing or elements that you believe could have led to

this not happening in the future?

A. Okay. So what we're doing now to prevent it from happening in the future?

Q. No. Maybe some of those things are what you're doing, but this could also be things that haven't been implemented now.

A. Oh.

Q. That you believe would have value.

A. Oh, I see. Okay. Well, prior to this incident, nobody ever thought that that could happen. So we've uncovered an Achilles heel in that Enbridge may have -- there might have been some over confidence with regard to how we did our jobs. We were the best in the business. We had the best safety record. And unlike a lot of other pipelines you've heard about, we take any landowner concerns with taking down our systems. So we know a lot of other pipelines don't do that. They'll investigate their SCADA prior to doing that. We don't wait for that. Any landowner issue that comes into the Control Center with complaints with regarding odors or visual sightings or a sheen or oil, we shut down our systems. So I think there was a certain amount of pride that we had, and we still do with regard to the work we do I think in delivering oil to our customers and doing it as safely as possible. So I think that reputation got tarnished a little bit, and I think a lot of operators and controllers as you call them, we feel somewhat responsible for that. And I think some of the steps we're taking now will mitigate that in the future. As to

what I can add to it, again, Karen, like I said, I consider myself more of a life coach to these people in my support role for them. So not only just helping them out and supporting them in their job, but taking it a little bit further.

Q. Has there been any talk of bringing those that are currently out of the control room back in?

A. The only talk is the hope that they all do return. There's been nothing from our management to indicate that they are coming back.

Q. Okay. Would you say that that hope or that -- the lesson that we didn't think it could happen to us, would you say that that's -- that both of those are pretty well felt across the control room?

A. Yes.

Q. Okay. So what -- is there anything that you're holding back a little bit on that you think could make a difference in how the room could perform?

A. Again, my guesstimation, my role is --

Q. Yes.

A. -- basically is to bring people together to communicate.

Q. Right.

A. That's integral.

Q. So you think --

(Simultaneous comments.)

Q. -- improvements --

A. Yes.
Q. All right.
BY UNIDENTIFIED SPEAKER:
Q. Let's define that a little better.
A. Okay.
Q. Communication between --
A. Pipeline, pipeline operator and terminal operators.
Q. Okay.
A. Yeah.
Q. That's it.
A. So that they are up on -- yeah. They know exactly what times events are going to happen, and they're prepared for it. There are times during peak workload when that might get missed, and so our coaching on that would be to tell -- to approach the operator and tell them to prioritize a little bit better for upcoming events, to be forward thinking, not --
Q. Is any of that fundamental to what happened on the 25th? Communication?
A. No.
Q. Okay.
A. No, I think --
BY UNIDENTIFIED SPEAKER:
Q. That you could minimize (indiscernible) through better communications? Is that part of it or --
A. I think we're -- we've probably had a good handle on it.

What we're getting a better handle on are the actual locations and the elevation profiles that are prone to column separation events. So we had the common -- like I said, the terminal operator would basically be talking to the pipeline operator when they're shutting down with regard to holding pressure, you know, and closing off a delivery in conjunction with the operator shutting down his units and the corresponding pressure drops.

BY MS. BUTLER:

Q. So were you interviewed internally?

A. I was.

Q. Okay. You were?

A. Yes, I was, Karen.

Q. Did anything come out of that internal interview in your, in your --

A. No. The results of the internal interview, they haven't released them yet.

Q. Okay. So was anything exposed in that interview that you hadn't thought about?

A. No, not really. Again, it was the questioning on the internal interview was about procedures and how we adhere to them.

UNIDENTIFIED SPEAKER: Was that a recorded interview?

MR. DONALD: I believe so.

BY MS. BUTLER:

Q. You recall what procedures you covered?

A. Procedures on column separation.

Q. Okay.
A. Yeah.
BY UNIDENTIFIED SPEAKER:
Q. What procedures are there on column separation?
A. In the event of a column separation, if it's a -- being identified. Usually these were on start-up, line start-ups, lines that had been down for a period of time, 12-hour, 24-hour period of time. Might be subject to some drainage.
Q. Okay.
A. So the column separation procedure would say -- identify a location that was separated and start a countdown of 10 minutes to put it back together.
Q. Is that an operational procedure or emergency procedure or a general procedure?
A. That's part of the emergency procedure, I believe.
Q. It is in the emergency procedures?
A. Yeah.
Q. Okay.
BY MS. BUTLER:
Q. Is it -- is that the only thing that the procedure that was concentrated on?
A. Would that be the only procedure?
Q. No. I meant in the internal interview when you discussed the fact that it was mainly geared around --
A. Oh.

Q. -- how you adhered to them.

A. With regard to that, I think there were some questions with regard to the MBS analyst.

Q. All right.

A. The procedure there.

Q. All right. So do we have any other procedure books besides operating procedures and emergency procedures? Do you have like a set of what you might call standard operating procedures that exist?

A. I think those are the standard operating procedures.

Q. Okay, all right. Okay. You've mentioned the logs that you're recording based on errors. Are there any other logs that you're routinely doing daily?

A. There's the -- an over short -- it's more of a report.

Q. Okay.

A. So we'll be looking at batch interfaces that go over a measured threshold.

Q. Okay.

A. And asking the operators usually when they file those they go into a database. We're the ones that populate the database after they enter them.

Q. Okay.

A. So.

Q. Anything else?

A. I'm trying to think of the reports that we're doing.

Q. Do you need a break?
A. No. Unless you guys want a break.
MR. NICHOLSON: Let's take a break.
MS. BUTLER: Let's take 5 or 10. You guys tell me.
MR. DONALD: Sure.
MR. NICHOLSON: I mean are we ready to call Curt in or --
MS. BUTLER: Yes, I think you certainly can.
UNIDENTIFIED SPEAKER: Yeah, let's call Curt.
MR. NICHOLSON: All right.
UNIDENTIFIED SPEAKER: Okay, let's take 10 (indiscernible).
MS. BUTLER: And thank you for everything so far.
(Off the record.)
(On the record.)
MR. NICHOLSON: Okay, continuing with Bob Donald. Karen, you're questioning?
MS. BUTLER: Yes.
BY MS. BUTLER:
Q. So now we're going to move into just a few other types of questions regarding SCADA performance and issues. If we had added a -- some type of low pressure alarm that stayed in one spot like zero pressure for example at Marshall, would that have helped in any way, do you think, for people to recognize the problem?
A. If the zero pressure was a redundant audible alarm,

probably, yes.

Q. Okay. Do you know right now when we look at say the Marshall low section pressure, do you know where that pressure -- that point actually resides? Like in the PLC or the SCADA system?

A. I think at the station level it talks to the PLC at 25 pounds.

Q. Okay.

A. And on the SCADA, low suction would be determined at 35.

Q. Okay. So do you think that that -- when we see that alarm, does that mean it hits 25 or somewhere between 35 and 25 or what does that mean? Do you know?

A. When it goes below 35 --

Q. Okay.

A. -- the color on the analog will change.

Q. Okay.

A. And when it hits 25 or below, we'll probably lose a pump on low suction.

Q. Okay. All right. And have you ever been asked to help prioritize alarms? Like whether it gets a S2 or an S8 or an S6?

A. Yeah, that's -- not a lot, Karen. I'm trying to think of instances where operators have asked that we push forward to get an alarm.

UNIDENTIFIED SPEAKER: I think Karen's question is more about is did you help set? So here's an alarm. Do you think it's an S2, an S6, an S8?

BY MS. BUTLER:

Q. Yeah. Have you ever been asked what priority you think an alarm should be?

A. Yes.

Q. Okay. When was that? Awhile ago? A long time ago?

A. I'm trying to think, Karen. Been awhile.

Q. That's okay. If it's been awhile, that's a good enough answer. Descriptor input. You know when something comes in and you look at it and it tells you something beside it whether it be an alarm or a command, have you had input as to how that reads?

A. No.

Q. Okay. Discrepancies. Have you ever noticed anything in your SCADA system where for example an alarm might have a time stamp on it, but it didn't necessarily display in say or result in a color change or something or display an alarm cue at that time?

A. So you're talking about a SCADA failure here?

Q. It might be a delay as opposed to a failure. I'm not really sure that you would have seen it. I'm just asking.

A. I'd have to say no.

Q. Okay. That's fine. Have you ever sat down during a shift and tried to compare to make sure that if you sent a command out to a particular valve and you received the travel status regarding that valve that you compared those one-for-one? Have you ever taken time to do that?

A. No.

Q. Okay. Have you ever seen system alarms where it will say things like R trap too busy to process?

A. Yes.

Q. Do you know what that means?

A. Sometimes in an environment there might be a glitch where commands or alarms might be considered in a loop.

Q. Okay.

A. And it might slow the environment down. We do get system alarms that tell us that --

Q. Okay. Do you -- have you noticed that ever happening at a particular time or in connection with a particular event?

A. No.

Q. Okay. Have you ever really checked into that?

A. We call the SCADA right away.

Q. Okay. You do as a shift lead?

A. I do.

Q. Okay. Is that something you watch for?

A. As a shift lead?

Q. Yes.

A. No.

Q. Okay. Is that something that you expect the operator to tell you about?

A. Yes.

Q. Okay. It's my understanding that the operators can reboot their consoles. Can you reboot?

A. I can't reboot their consoles.
Q. Okay. Can you reboot something that only you have?
A. I can reboot my console.
Q. Okay. So if the console that the operator is sitting at monitoring 6B locks up, yours might still be active. Would you see the same thing he sees or would you see an active display?
A. I would not see his console freezing up on him.
Q. Okay.
A. I would rely on him to tell me that that was happening.
Q. Okay.
A. We would suggest a reboot right away, have another operator take his pipeline or terminal on their screen.
Q. Okay.
A. While the reboot took place.
Q. Okay.
A. And, if not, then like I said, we'd have SCADA involved in -- either at the onset or after the reboot.
Q. Okay. So if yours locked up and theirs locked up, does that mean you've got an overall controller problem or does that still mean it could be isolated to two specific sets of equipment?
A. Okay. There's different environments that are operating there, Karen, so --
Q. Right.
A. So we have a secure environment. We have an (indiscernible) environment, a (indiscernible) environment, a

cushion environment, (indiscernible) environment.

Q. Section?

A. Yeah. So on -- my assumption is they run off different servers.

Q. Yes.

A. And so there are from time to time, there are server issues.

Q. Okay.

A. Then usually we get SCADA involved right away.

Q. Is there anybody that monitors the server load activity that you're aware of?

A. That would have to be the SCADA personnel. I'm not sure.

Q. Okay.

A. I'm assuming they have alarm system that's set up so that they would be alerted to it.

Q. Okay, all right. With that, if I could just ask you a couple of questions about some specifics that they see in the alarm log. And one of them has to do with -- it will look like a DRB. It's listed as an S6, and it comes in, and it will say LPM, invalid pressure. LPM may not be able to detect over pressure. Have you seen those before?

A. Have I seen those before?

Q. Yeah.

A. Yes.

Q. Do they happen fairly frequently?
A. Not to my knowledge.
Q. Okay. Do they happen mainly on an event like startup or shutdown?
A. Not to my knowledge. They might be related to a program logic.
Q. Okay.
A. Might be a time lapse.
Q. Okay. So if that were to occur, would you as a shift lead expect to be notified?
A. The operator would probably have to look to see if the -- when the alarm came in whether or not it cleared.
Q. Okay.
A. So my understanding from those, from what I've seen before is those -- they may get an alarm like that, and then a couple of seconds later it will clear.
Q. Okay. Do you really know what causes that?
A. I think it's just time lapse.
Q. All right.
A. Traffic on the --
Q. So is it possible that if the SCADA was having some problems processing some things like maybe we've got some missing commands or we've got some other issues, that we might see more or those? Do you know?
A. No, I don't.

Q. Okay, that's fine.
A. Yeah.
Q. That's (indiscernible). Okay. So on the Marshall invalid pressures and that type of alarm that we've just discussed, would that at all cause you to question any other pressure readings you're getting?
A. I think if I was getting the alarm, I'd probably take note.
Q. Okay. So if you got that alarm and then you got a Marshall low suction pressure alarm, and then shortly after that you got the LPM reserve resumed normal operating conditions and the low suction pressure cleared, would you have a tendency to lump those together if they came boom, boom, boom, boom?
A. With --
Q. Like --
A. -- with --
(Simultaneous comments.)
Q. -- same time -- and some have five seconds apart.
A. Yeah. Well, I'm thinking if they came in, in a lump like that, the last line saying it had cleared --
Q. Yeah.
A. (indiscernible) resolve my issue with it.
Q. Okay.
A. Yeah.
Q. All right. So if something starts to toggle in and out,

like you have that bunch and then you see another low suction, and then you have another bunch, and it doesn't necessarily involve all those same points, does that make it harder as an operator to determine if you have a pressure consideration or not? In your opinion. Just your opinion.

A. Just depending on what was actually happening on the pipeline.

Q. Okay.

A. Yeah.

Q. All right.

A. So (indiscernible) conditions, there would be a number of alarms coming in --

Q. Uh-huh.

A. -- the operator's focus would be on the pipeline itself.

Q. Okay.

A. I guess --

Q. When you have an MBS alarm --

A. Um-hum.

Q. -- and I see some examples where it starts out and they're both five-minute alarms, but one will have like a seven and a couple of dots, MBS Line 6, alarm five minutes, and Griffith to Marshall, and the next one might have a four dot, dot, what does that seven and that four mean at the beginning of that descriptor?

A. That's the alarm priority order from what I understand.

Q. So like even if it says S6 after the MBS but this is the number in front of the word MPS, it would still mean priority order?

A. If the 6 -- yeah, the 6, the 4, the 8.

UNIDENTIFIED SPEAKER: Let me put this in front of Bob. This is a list of --

MR. DONALD: I need my glasses.

UNIDENTIFIED SPEAKER: Oh, okay.

MR. DONALD: Okay.

MS. BUTLER: I'm looking at event number 1709, then number 1711.

UNIDENTIFIED SPEAKER: Right. He's got that.

MS. BUTLER: Okay.

UNIDENTIFIED SPEAKER: The two highlighted in blue.

MR. DONALD: Okay.

BY MS. BUTLER:

Q. Does that mean anything to you?

A. I don't know if I've seen them displayed like this before.

Q. Okay.

UNIDENTIFIED SPEAKER: There's -- didn't we decide there's somebody that might answer that --

MR. DONALD: Both of these, that 7 and 4 doesn't mean anything to me. The S6 does.

BY MS. BUTLER:

Q. Yeah, okay.
A. Okay.
Q. That's correct. That's -- I just needed to know if that meant something to you or not, and if it doesn't, that's fine. Okay.
UNIDENTIFIED SPEAKER: Further on like in that first restart there's similar alarm (indiscernible) has a five in front of it (indiscernible).
MS. BUTLER: It seems to move. We just wondered if that meant something specific, and it doesn't appear that it does to you, so.
BY MS. BUTLER:
Q. Okay. So talk to me a little bit about -- do you ever review how an operator performs startup of a line?
A. Yes.
Q. And are there certain things that you look for?
A. Yes.
Q. What would be some of those things?
A. Okay, so the occasion when I would observe an operator starting up or shutting down --
Q. Uh-huh.
A. -- okay. So first instance might be if an operator asked me to evaluate him while he was doing that.
Q. Okay.
A. We have operator evaluations every three years.

Q. Okay.

A. So the operators have to re-qualify. So I would say that operators going through an event would entail a startup, shutdown, observing pressures.

Q. Um-hum.

A. Operating valves (indiscernible) pumps and valves.

Q. Okay.

A. So I would observe that operation from that operator.

Q. Okay. So let's pretend for a minute that you're watching 6B.

A. Okay.

Q. And we're going to start up 6B.

A. Okay.

Q. And we've been told that we have to deliver into Stockbridge.

A. Okay.

Q. So what would -- how would you begin this process, and what would you watch for?

A. Okay. So if they're going to deliver into Stockbridge and they're starting up the line?

Q. Yes.

A. That's the premise? Okay. So well he would be -- he would be the terminal operator as well on that line.

Q. Okay.

A. So he would have to arrange the tank, the manifold

valves.

Q. Right.

A. Okay. And de-suctionalize the line.

Q. Okay.

A. Establish (indiscernible) into the terminal.

Q. Okay.

A. And then begin his startup with a call to the Griffith Terminal operator to start boosters.

Q. Okay.

A. And then (indiscernible) booster or suction pressure, he would commence his startup.

Q. Okay.

A. With the Griffith unit.

Q. Okay.

A. And then proceeding down to the (indiscernible) stations after that.

Q. Okay. Would he go in order of the stations?

A. Yes, that would be my --

Q. Okay.

A. -- my take on it, yes.

Q. Okay. If he had to bypass a station due to a (indiscernible) run, is there anything specific that's done for you guys so you know what to expect in that event or --

A. Yeah. We'd be watching the pressure across that bypass station, waiting for pressure downstream of that station before

starting --

Q. Okay.

A. -- pump at the downstream station.

Q. All right. What about on shutdown? How would you watch on a shutdown? We're just going to do the reverse now. We've started up the line. It's been running for awhile. We've completed our delivery requirements into Stockbridge, and we don't need to move anything else.

A. Correct.

Q. So we're shutting down that same configuration now. How would you do that?

A. Okay. My approach would be to slow down the pumping stations.

Q. Okay.

A. We would pinch back on the PCBs at all those stations.

Q. Okay.

A. To enact throttle with each location, and slowing down the flow.

Q. Okay.

A. Once that was established, could raise the Stockbridge holding pressure.

Q. Okay.

A. Okay. And then we would contact the Griffith Terminal operator tell him to go ahead and drop his booster pumps, and we would subsequently in sequence drop our station units as well.

Q. Okay.

A. All the way down.

Q. And would you do those in order from Griffith up to Stockbridge?

A. From Griffith down to Stockbridge, yes.

Q. Okay. All right, so we had heard some other people say that they do every other station. Is that something that would be acceptable?

A. There would have to be a reason for it.

Q. Okay.

UNIDENTIFIED SPEAKER: Karen, can you clarify? We've had people say every other station on startup or shutdown?

MS. BUTLER: Actually, I'd have to look at the record on that. Because I don't want to misquote that. I know that it was definitely in the set of interviews. I believe we've heard it on startup, but I could be wrong. So --

UNIDENTIFIED SPEAKER: That's what I understand as well.

UNIDENTIFIED SPEAKER: It's actually been both, I think. In certain circumstances you may want to do it differently on shutdown as well is what one person --

UNIDENTIFIED SPEAKER: It wasn't every other station. It was just --

MR. DONALD: It was some stations were skipped.

UNIDENTIFIED SPEAKER: It was dependent on (indiscernible)

UNIDENTIFIED SPEAKER: On a shutdown?

UNIDENTIFIED SPEAKER: Both.

MS. BUTLER: And I'm sure that can be reviewed for clarity. But nonetheless, I was just curious. Okay.

BY MS. BUTLER:

Q. So you would want them to have a reason for doing it that way. Okay. Your pressure control valves on Line 6B, have you known to have a problem with those?

A. I'd have to go back over the whole six years to find out.

Q. That's fine.

A. Yeah.

Q. If there's something that pops out in your mind right now, that's all I'm asking.

A. Not particularly to 6B. We do have pressure PCD issues at -- from time to time. Again, it's just -- it's a maintenance call.

Q. Okay.

A. Fact man report.

Q. Do you as the shift lead enter any of the electrical constraints? Meaning your power limitations. Or is that done elsewhere?

A. Okay. So with regard to power, there are times when we receive curtailment alarms from the various power companies along the right-of-ways.

Q. Right.
A. So we do have some procedures. Some of those curtailments are initiated from the power company.
Q. Okay.
A. And some of those we would initiate ourselves on a request from our company.
Q. Okay.
A. In the case where they're initiated from the power company, the operators would come and tell us that we have a curtailment going for a certain number of stations or locations.
Q. Okay.
A. So my procedure on that is to clarify that with the operators to where the actual curtailment is taking place and phone the power company and ask them if the curtailment is real.
Q. Okay.
A. And verify an end time for curtailment, at which time we would probably call the power company again to clarify end time. Just the way pricing and the market goes these days, that varies at time to time, but --
Q. Okay.
A. -- so that's basically our interface with power.
Q. All right. So on times when you've done it yourself, it would work similarly in that you would make sure, you know, with the operator where that's going to occur and --
A. Yes.

Q. Okay.

A. Yeah. The jurisdiction here for the shift lead is if the operators controllers, and this would be across number of pipelines, if they are in violation of the curtailment, yeah, we would have to know that right away and get them to cut back to get under.

Q. Okay. And so I would assume that this kind of screws up your timing on some of your batching, is that --

A. It can have an effect on the daily through put, yes.

Q. Okay. And then do you do anything as a result of that? Do you like call scheduling or do you enter that?

A. If it's -- if the cutback is significant.

Q. Okay.

A. Yeah. We would notify Calgary that the -- there's a rate reduction on a line for a curtailment that's going to go for eight hours, and they would have to build that into their schedule.

Q. Okay. And do you do anything in the CMT system to indicate that or?

A. No.

Q. Okay.

A. No.

Q. There were some interviews previously with some other people that kind of indicated that the CMT system might have problems every now and then. Does that ring a bell or have you

seen that or experienced it?

A. Yes.

Q. But what does that mean? How does that exhibit itself?

A. Well, the program is accessible to a number of people. I'm not sure if I know the full extent of the number of people that actually access that program. I know that the schedulers in Calgary are working on pipe (indiscernible) which is the -- I guess that's the parent of CMT.

Q. Okay.

A. So when all the schedules are built. There are various other departments, I think that glean information from that program.

Q. Okay.

A. So there are times when the -- when there is certainly a slowdown on the server.

Q. All right.

A. And people get really irritated, and we have to call support to remedy it.

Q. Okay. So when they get really irritated because it's slowing down, what does that do to a controller?

A. I think it probably just raises their blood pressure a little bit.

Q. Right. Because of what though? Let me --

A. Just that there's -- we do gauge hour (indiscernible) two hours.

Q. Yeah.

A. And so the controller would be expecting his tank numbers, meter number, such to be there --

Q. Okay.

A. -- on that, at that time. The pipeline operators would probably wait 5 or 10 minutes for the terminal operators to input their numbers.

Q. Okay.

A. Then they would run their program. So when things get delayed by 5 or 10 minutes, it's just out of the routine, the normal routine --

Q. Okay.

A. -- the controller's routine. For some people it irks them a little bit.

Q. So basically what happens then is they don't have the confidence for a longer period of time that they know exactly what the imbalance is doing?

A. Okay.

Q. Or -- is that fair?

A. Yeah, that's -- it is fair.

Q. Okay.

A. Basically the commodity movement tracking is our navigation.

Q. Right.

A. Yeah.

Q. Okay. And do you know are other people or other departments interfacing with your SCADA data in a similar way or are they -- is like the data duplicated and they're pulling it from another source besides the SCADA server?

A. I can't answer that. Yeah, I'm assuming there is, but I really don't know, Karen.

Q. Okay. All right. Is there any other system that you guys have to interface with that periodically has problems and drives you crazy?

A. Lotus Notes.

Q. Okay. What about that? What would that affect?

A. There's only one database that seems to hang up on us, so and it irks me.

Q. Okay.

A. I'll be very honest with you there. So and that's our district on-call database.

Q. Okay.

A. And there are times when it does kind of hang up.

Q. Okay.

A. Yeah. Everything else off that Lotus Notes server I think works pretty good.

Q. Okay. So what do you have to do to eliminate that?

A. Shift off the leak. No.

Q. Got you. Okay.

A. If that doesn't work, we're usually having -- putting a

call into our --

Q. Okay.

A. -- to our help desk.

Q. Okay.

A. Have them remedy it.

Q. And that I take it then has like crews on call for you to call out?

A. Yeah, that's the whole system on call.

Q. Okay. So is that field employees as well as --

A. Yes.

Q. -- CCO people?

A. CCO, field.

Q. Okay. So that's everybody.

A. Everybody.

Q. Okay. I think I'm going to rest for awhile. Thank you very much.

A. You're welcome.

MR. NICHOLSON: Brian.

BY MR. PIERZINA:

Q. Yeah. I'm mostly going to defer, but I wanted to ask you, Mr. Donald, since the accident and we talked some about the changes, have there been changes to how you do the shift change since the accident?

A. There is something in place right now with regard to the operators, the controllers, the line operators and terminal

operators shifting. There have been modifications over the last couple of years to do the shift change electronically by some consoles. And probably right now we are probably going to go to an electronic turnaround. Currently right now I think it's only on one console.

Q. Okay, so --

A. So -- go ahead.

Q. It historically has been verbal, correct?

A. Yeah, verbal and in a -- maybe on a pad.

Q. Okay. And that's kind of left to individual preference or had been. Is it now written, mandatory to be written?

A. Mandatory written? No.

Q. No. Okay.

A. I know it will be electronically recorded.

Q. Okay.

A. In the future. That's coming very soon.

Q. Okay. So that's -- that will be a change. Is that something that's going to be a e-mail or some type of log or --

A. Yeah, yeah. It will be an electronic log.

Q. Okay. Can you describe how that will work? Because (indiscernible)?

A. The way I understand it, when turnaround happens, the operator will actually log into the console and at that point he will have control. So the previous operator, his control will be

relinquished on that new operator signing in. And then the electronic log, I'm not sure how they will have -- how they're going to set that up. I'm not sure what -- if that's going to be in Excel or Word spreadsheet or whether it's going to come from SCADA. I'm not sure.

Q. Okay. So that's a little bit to be defined and refined and --

A. Well, I think the electronic sign-in that's starting now. Looks like we have some prototypes in place right now, and I think they're experimenting on some consoles.

Q. Okay.

A. How to make that work.

Q. And the electronic log, is that being tested --

A. I believe our technical services are trying to put something together with regard to an electronic log that might be common across all pipeline terminals (indiscernible). So a standardized format.

Q. All right, how about turnaround between the shift leads?

A. There is no formal -- it's verbal, and we do have, like I said, the -- we have a written -- just on the days events, stuff that's carrying over into the next, into the next 12 hours or 24 hours.

Q. Okay. Is that again somewhat individual-dependent as far as what's written and what's verbal?

A. Yes.

Q. Okay. I'll pass it on to you Ravi.

MR. CHHATRE: Oh, yes.

BY MR. CHHATRE:

Q. I understand between the two (indiscernible) you have separation of some sort of a major workload terminal the pipelines --

A. Yeah. The room is basically is kind of divided in half. It's almost a physical separation.

Q. And is it decided on a daily basis or it is done --

A. With my partner. It depends. It might be different with the other shift lead partners. But my partner, when we start our set, he handles one side, I handle the other, and then we (indiscernible) next set.

Q. So you do like two nights and three days?

A. Yes.

Q. Okay.

A. Yeah.

Q. Is your partner fixed or your partner can be changed?

A. Can be changed. Oh, yes, oh, no, no. I understand what you mean? Yes. He's my shift mate.

Q. Okay. So you guys will be just all in the same --

A. Yes.

Q. -- shifts all the time.

A. Yeah. For the, for the most part of the year, yeah. It does get changed around when there's vacation and such, yeah.

Q. Exactly. But your process continues when the new person comes in if you are on vacation, the division of labor still will be --

A. Yeah, it's pretty much still the same, yeah. We try to establish that with the new shift leads as to what side of the room. Like I said, there's no particular (indiscernible) peak workload that one guy is going to sit there when there's nothing going on, on his side and not help. So, yeah, so like I said that's interchangeable depending on the workload, but, yeah, for the most part, I think everybody has that sort of a division.

Q. Is it pretty much standard operating practice for all leads or is it just for you and your partner?

A. To do it like that?

Q. Right.

A. I think it's standard operating practice for all of us to have it divided like that, yes.

Q. And how does your supervisor knows who is doing what or that is not necessary to inform him? I just -- is he in tune with you guys shifting for I guess workweek, if you would?

A. I think my supervisor has an idea that we divide the workload that way.

Q. But he may not be aware of who is doing what that particular day?

A. No, no.

Q. Okay. That's fine. Now you said Dave came and --

initially came and talked to your partner about the five-minute --

A. He told my -- he telephoned my partner.

Q. Right. And then you got (indiscernible) in the -- I guess your experts on --

A. So the side of the room that Dave was operating on?

Q. Right.

A. Yeah. So when I walked back into the room, he told me there was a five-minute MBS alarm on Line 6 on the shutdown. And when I saw down, the MBS analyst almost immediately as I sat said that the alarm was a column separation and it had cleared.

Q. Okay. And you conveyed that to Dave or Teresa or both?

A. Who conveyed what?

Q. That --

A. Oh, that the alarm had cleared?

Q. Right.

A. The -- I'm thinking the analyst had already told Dave that the alarm had cleared.

Q. So you had no communication back --

A. Back from Dave? No.

Q. So was there any direction from you to Dave that what needs to be done next or --

A. No.

Q. -- do you look into the situation at all by yourself?

A. No. No. If there was no issue with the MBS alarm and

no issue with the operator on the shutdown, then no, I wouldn't have -- I guess we don't oversee the startups and shutdowns of all the pipelines. There are occasions when we do, but on this occasion, there was no oversight.

Q. (indiscernible) five minute (indiscernible) column separation by your specialist or --

A. Yes. He identified it as a column separation and that the alarm had cleared.

Q. And did you question the column separation --

A. No, I did not.

Q. -- at Marshall?

A. No.

Q. And did you have the topography of the location where the column separation occurred on your screen at that time or you did not?

A. No, I did not. No, I did not.

Q. Now since the event or accident, did you have any informal group meeting with your operators discussing lessons learned?

A. Yes.

Q. Formal or informal?

A. Informal.

Q. And was there any record kept of that or there was just kind of a --

A. There is an abnormal operating condition. It's a

digital record or that is logged whenever there's a 5 or 10 or -- not 5 or 10 -- 5, 20 or 2-hour alarm in the MBS system.

Q. No. I meant your discussion with your group.

A. Yes.

Q. Was it --

(Simultaneous comments.)

Q. -- official or was it like you have a meeting with them or was it just informal discussion?

A. It was an informal discussion.

Q. Informal discussion.

A. Yeah.

Q. You recall what was discussed?

A. Just the how do we react to an MBS alarm, and the order that the alarm is reported in. So if the operator -- it would be coming off the analog to the operator, would call the MBS analyst. The operator would then call the shift lead. The shift lead would follow-up with the analyst to make sure that the model is operating --

Q. Okay.

A. -- properly.

Q. But wasn't that pretty much done in this particular case? Just like you described right now.

A. Yes.

Q. Wasn't that done in the -- so how is any different than what was done before?

A. Oh, I see what you mean. Depends. Sometimes the operators would inform the shift lead instead of the MBS analyst. So the priority could get changed up. We always ask if the shift lead is informed first. We ask the operator have you talked to the analyst. The idea is to get the alarm resolved as quick as possible.

Q. So now the chain would be that the operator can go directly to the analyst?

A. The procedure now is the operator informs the analyst and the shift lead.

Q. And the -- okay.

A. And the shift lead to follow up with the analyst.

Q. Even for the five --

A. Even for five minutes, yes.

Q. Okay. So that's the only change? Before that, if I understand correctly --

A. No, that was the procedure from my understanding. But like I said, there are times when operators would inform the shift lead and instead of the MBS analyst, and so we would just refer to the (indiscernible) analyst as well.

Q. So has that change been made officially with some type of document? Are you still --

A. It's just the introduction and procedure again that this is the proper way to report an MBS alarm.

Q. Okay.

A. So that's reinforced on the shift that -- on the shift meetings.

Q. The reason I ask because --

A. Yeah.

Q. If my memory serves me right, I think the operators told us that five-minute alarm, I believe that is 5, 10 --

A. Five, 20 and 2 hour.

Q. And 2 hours.

A. Yeah.

Q. The first two they need not go to the analyst. They (indiscernible) from that to the lead. But two hours they will require (indiscernible). And that's slightly different than what you are telling me. So I'm trying to reconcile.

A. Right, right. They have to tell us about every alarm.

Q. Right, but what you are telling me is your procedure requires them to inform analyst.

A. Yes.

Q. And you are just I guess enforcing that. What we learned talking to the operators was the 5 and 20-minute alarms they do not require to go directly to analyst. They may, but they're not required by the procedure to go to analyst. But they are required to go to -- two hours, by procedure they're required to go to analyst.

(Simultaneous comments.)

A. -- two-hour --

Q. Which is different than what you have previously told me. I'm sorry?

A. No. We -- like I said, yeah, that is like I said we are trying to tell them, the operators, like I said, to inform us of all the MBS alarms, which prior to like when I was operating, any five-minute alarm was automatically reported to the MBS analyst.

Q. I see.

A. Yeah.

Q. So somewhere there was a change made, and now you are back to --

A. Like I said, yeah. We have basically gone back to not trying to analyze the alarm because we are not the, we are not the model experts there.

Q. I guess you mentioned that you had an internal investigation.

A. Yes.

Q. Has it been complete or it's ongoing?

A. My understanding is that it is done.

Q. Okay.

A. Yeah.

Q. And that's I guess result of this accident, the -- some, I do not know how many, but the operators have been given, assigned to another duty?

A. Yes.

Q. Any of the supervisors of these, have they been given or

assigned --

A. Yes.

Q. -- other duties?

A. Yes.

Q. Can you tell which leads have been assigned other duties?

A. Which two leads?

Q. Which leads. I guess the --

A. You want the names?

Q. Yeah. Have they been assigned different duty or they have not been assigned?

A. Yes, they have been assigned.

Q. Okay. And who those will be?

A. That would be Darin Parsons.

Q. Okay.

A. And Aaron Zimmel.

Q. And?

A. Aaron.

Q. Okay.

A. Zimmel.

Q. Okay.

UNIDENTIFIED SPEAKER: And both of them are going to be interviewed in the next two days, Ravi.

MR. CHHATRE: Okay. (indiscernible)

UNIDENTIFIED SPEAKER: Okay, just want to bring you up

to speed.

MR. CHHATRE: Right, okay.

BY MR. CHHATRE:

Q. Now as far as the column separation on mass balance, do you have any guidelines at what level you would raise the issue to your supervisor?

A. Do I have guidelines?

Q. Yes. I mean if you figure a mass balance alarm for example on a column separation --

A. Yes, column separation.

Q. What it takes you to deliver that issue to your supervisor or you will not deliver that to your supervisor?

A. To my supervisor, if the column separation balance calculation is going to go longer than 10 minutes, I have to have my administration approval.

Q. Okay. So during -- okay. When you break your 10-minute rule --

A. Yes.

Q. -- do you have to inform your supervisor?

A. Yes.

Q. And did that happen when it went 22 minutes, I guess, the startup?

A. I don't know.

UNIDENTIFIED SPEAKER: Wasn't in his --

MR. CHHATRE: Okay. The reason I'm asking

(indiscernible) the interaction (indiscernible) or whatever.

BY MR. CHHATRE:

Q. Was a different shift.

A. Right. Yeah, it was a different shift, yeah.

Q. I don't know if I ask you earlier or not. If I did, you (indiscernible) answer that. But now Dave being the trainee with Teresa.

A. Okay.

Q. Did you assign -- did you tell Teresa that Dave would be working with her?

A. No. The training department would have assigned Dave to Teresa.

Q. Did they tell you that Dave will be working with Teresa?

A. I don't believe they -- there was probably an e-mail saying that Dave was going to be working with Teresa.

Q. Okay.

A. I can't remember, no, no. I can't remember for certain, no. This had been going for -- they've been sitting together for awhile.

Q. Right. I'm just trying to find out what the procedure is --

A. Yeah.

Q. -- when somebody's being trained does the lead knows that there would be a person that's being trained on his shift.

A. On shift.

Q. And what --
A. The training department usually sends an e-mail.
Q. And what the training department expects --
A. Yeah.
Q. -- to train. If you're not informed, and if you even don't recall, I do not know how you will know what training needs to be given?
A. Well, we would be informed that the mentor for Dave or any other trainee, we would be informed by the training department that --
Q. But you don't even recall receiving an e-mail.
A. I don't recall seeing the e-mail. I've seen lots of other ones. So I'm assuming it was done.
Q. Then who --
A. We could --
Q. -- is responsible --
UNIDENTIFIED SPEAKER: We could check with Jim. We'll be interviewing Jim Johnston.
(Simultaneous comments.)
BY MR. CHHATRE:
Q. I understand your point.
A. All right.
Q. I'm just trying to confirm that he knows that. Otherwise there will be a discrepancy and I just want to have something that I know.

A. Yeah. All trainees are assigned a mentor.
Q. Right.
A. But in the wake of sick leave or vacations, that trainee might be assigned to somebody else you know.
Q. But does the training department tell you as to what kind of training that they expect you or the mentor to give to Dave? I'm just trying to understand the concept of training.
A. Yeah, yeah.
Q. And what did they --
A. No. They don't tell me what the mentor is actually going to impart to the operator. I can look that up. So I know the operator --
Q. If you could pass it on to Matt through (indiscernible) since you believe there's a possibility that you might have an e-mail.
A. Yes.
Q. If you don't have e-mail, you can (indiscernible).
A. Yeah, yeah.
Q. Now does the training department tell Teresa what she's supposed to train the trainee?
A. Yes, I believe so. They would outline what the program is for Dave. So there would be probably a number of modules or manuals to do as well as the live operation.
Q. So Teresa would know?
A. Yes.

Q. And would you be cc'd on that e-mail as the supervisor or --

A. No.

Q. Okay. The -- do you know what causes a column separation?

A. Do I know what causes? Yes.

Q. In your opinion, what causes it?

A. Drainage.

Q. Okay. Meaning?

A. Meaning that the volume in the line --

Q. Okay.

A. -- for the volume that's calculated for the line, more of it has been drained out.

Q. Okay. So --

A. Creating a vapor bubble.

Q. In the shutdown mode that probably is not a great valid reason or it is a valid reason?

A. For a column separation?

Q. Column separation.

A. Yes.

Q. So -- okay.

A. Yeah, yeah.

Q. When the drainage occurred in a shutdown mode?

A. Does it normally occur?

Q. Yeah. I think you are saying the drainage is a

possibility in a shutdown --

A. Yes, yes.

Q. -- column separation.

A. Correct.

Q. I'm trying to understand where the drainage would be in a shutdown mode. The pipeline is not doing anything.

A. The drainage would be into the terminal that you were delivering the product to. So there's -- you understand when the pipeline is shutting down, as units are coming down, as units are coming down and the pressures are dropping, the terminal would be informed of the last station and the pipeline operator would be talking to him to tell him to go ahead and close off.

Q. Right.

A. Okay. So they would typically slow their valves. They would have their holding pressure rate, and they would slowly close their valve to complete it. So in instances like that, if there is, if there's a minute overlap or a half a minute overlap, you can drain more product out of the line than you've actually put in.

Q. So you've got this (indiscernible) it would go away by itself. Sometimes I think you maybe mentioned earlier --

A. The MBS analyst. Yeah, I don't know why -- what -- why that alarm changes for them. I don't know --

Q. In the shutdown mode.

A. I don't know the engineering. This is a systems

engineering.

Q. Yeah. The operators and leads, they never ask the analyst why it's happening or why it should happen in a shutdown mode?

A. I guess they could, but, yeah, no. I'm not aware that they do. If the analyst tells them the result of the alarm is a column separation, the operator would probably --

Q. Accept that.

A. -- unless he had any other reason to suspect otherwise, he would accept that.

Q. Even in shutdown mode?

A. Yes.

Q. (indiscernible) a zero pressure in a shut pipeline in your experience (indiscernible) would you expect zero pressure in the line to be shutdown?

A. There are. There are certain locations in our system that do drain out and the pressures do drop down, but zero pressure is not the only indicator of a column separation. You can have column separation with a station with 75 pounds or 50 pounds.

Q. True.

A. Depending on the elevation.

Q. I mean I was more focusing on zero --

A. Yeah.

Q. -- psi.

A. Yeah.
Q. And --
A. There are a couple of locations on our systems that are prone to it.
Q. Those locations would be?
A. Mopolus (ph.) 580.
Q. I'm looking for --
A. So --
(Simultaneous comments.)
Q. -- topography (indiscernible) where those locations would be where you would expect.
A. The column separation?
Q. No, pressure, zero pressure.
A. Zero pressure would be the top of the hill.
Q. Okay.
A. Near the top of the hill.
Q. Would you expect that in non-mountainous location?
A. Would I expect it in a non-mountainous -- no. I wouldn't rule out the possibility of it happening.
Q. Would that be a reason to cause a (indiscernible) when you have zero pressure when you have (indiscernible) on your display (indiscernible) for operator or lead or anybody in the control room?
A. To see zero pressure?
Q. Zero pressure on line which is not on a (indiscernible)

or -- mostly on the flat side.

A. Yes.

Q. Which the Marshall was.

A. Yeah. Yeah. It would be a concern. It's --

Q. Only if you --

(Simultaneous comments.)

A. -- if the pressure wasn't expected.

Q. Okay.

A. Then there might be some -- there should be -- there would be concern.

Q. That's all from me. Thank you so much.

A. You're welcome.

BY UNIDENTIFIED SPEAKER:

Q. I've got just a few questions, Bob. I'm trying to get you out of here.

A. Okay.

Q. Follow-up. What I really want to do is go through the kind of what Karen was doing, the alarm logs for the 25th. Have you looked at the alarm logs from the 25th, the commands?

A. No.

Q. Okay. Even as part of the internal investigation, you didn't review alarms commands?

A. No.

Q. You just talked to procedures without seeing trends or?

A. We talked about procedures.

Q. Okay.
A. I reviewed the historical alarms, historical pressures.
Q. So you did look at the historical.
A. The historical pressures. After --
Q. You said alarms too.
A. Not the alarms, no. I did not see the alarm monitor.
Q. So I'll bring these over. These are the July 25th --
A. Yeah.
Q. -- just ask you a few questions on them. Okay, so I've just given you a portion of it there, which really kind of starts where the first alarms are.
A. Okay, the very two, the top? Yeah.
Q. Would you read me the event number at the top of that?
A. 1625.
Q. Okay. So that first even there is the LMP alarm, which we kind of talked about earlier.
A. Um-hum.
Q. Which is S6, right?
A. Yeah.
Q. And in your experience, that -- is that an unusual thing to see on a shutdown or is that typical?
A. I wouldn't say it's typical.
Q. It's not typical. Okay. Would the operator -- the S6, would the operator be required to notify the shift lead of that?
A. Not to my knowledge.

Q. Okay. Would it be concerning to see that come in -- I think it comes in, in pairs there. If you look there, I've got it labeled (indiscernible) where it comes in and it clears. You'll see A, B, C, D, E, F, G.

A. Okay. LPM resumes operation condition. Yeah.

Q. So they're kind of in pairs there. You'll see I think it was six or so.

A. Right.

Q. Five of them clear themselves, and according to that sheet, there's a sixth one that has no indication that it cleared.

A. Okay, so -- how did you letter that, as an F?

Q. It would be G.

A. G.

Q. (indiscernible) at seven.

A. That would be --

Q. Six of them cleared.

A. Okay.

Q. I'm just asking from your experience because you've had a lot of control experience.

A. Right.

Q. Would that be something that would indicate an abnormal operating condition, something that should be researched further?

A. I think if I received the alarm six times and it cleared, it might mitigate me looking any further. But as to whether he got that alarm and acknowledge it and it didn't clear,

yeah, maybe he'd want to look at it again.

Q. Is that considered a leak trigger?

A. No. I wouldn't say it's a leak trigger. The -- like I said, it might be determined from the pressure on the line bouncing or it might be determined from an invalid PLC. Like I said, maybe a time lapse coming back from the PLC.

Q. A time lapse coming back from -- I don't understand. Because it has to be a real value, right? Transducer saw it, right?

A. Yes. It shows invalid pressure. May not be able to detect over pressure.

Q. So what would be -- how would that be explained by a time lag in the PLC?

A. Well, the fact that it clears a couple of seconds later. It's either it happened on the line that the line, the pressure is bouncing.

Q. Okay. Real -- means it's a real --

A. Yes.

Q. Okay.

A. Yeah. And or it's invalid because the analog may be wrong. I don't know.

Q. The signal, the 4 to 20?

A. Right.

Q. Okay. Either way you put a fact man in, would that be correct?

A. Yeah. If this alarm was continuous.
Q. Okay.
A. Yeah.
Q. So on the (indiscernible) number 1626 just below that first --
A. Yeah.
Q. -- that low suction pressure.
A. Correct.
Q. Is that a leak trigger in and of itself?
A. Depending on the event. On a line shutdown, it might not be considered a leak trigger.
Q. Okay.
A. Just that the operator didn't get the pump off or the pressure wave coming through may have tripped the pump earlier than he would have closed it off.
Q. Well, in fact, that's the next line, right?
A. Yeah.
Q. The pump is in sequence off.
A. Yeah, right.
Q. It wasn't an operator initiated event. Okay. So if you take 1625 through 1627 together do you have a leak trigger anywhere?
A. 1625.
Q. Now we can kind of say well we've got an LPM invalid. I've got a low suction pressure, and the unit just sequenced off.

A. Right.
Q. Still nothing? Just --
A. Again, depending on the event.
Q. Well, we're in a shutdown, right.
A. Okay. So that event to me is like I said it -- I guess in retrospect you could look at it as a leak trigger, but if you're shutting down the line, the operator might just look at it as somebody didn't shut the pump off in time.
Q. Okay.
A. (indiscernible) got there first and the station low suction alarm took action.
Q. Okay. And in fact it looks like at 1632 the operator then does issue a stop command.
A. Yes.
Q. Which indicates what to you?
A. On 16, oh, on 1632.
Q. Yeah, 1632.
A. Yes. He throws a stop unit.
Q. Meaning he didn't see that there was a sequence off?
A. I'm just looking at -- yeah. I can't say for sure what --
Q. Okay.
A. -- what he was looking at.
Q. There would be no reason to issue a second stop command though if it was already in sequence (indiscernible)?

A. Yeah. There might have been a distraction. Like I said, the intent is to like I said shut the line down in sequence.

Q. Sure.

A. If the pressure had got there earlier, the pressure wave got there earlier and knocked the pump off on low suction, whether or not he was looking at it at the time, I can't see him throwing a command stop the pump if it's already going in sequence off.

Q. Like 13 seconds difference there, and it's been asked before could that be lag? Could he have issued that stop command prior to the sequence off and --

A. Quite possible.

Q. At 13 seconds? Okay.

A. Quite possible.

Q. That's a lot of lag.

A. It is.

Q. Okay. So we'll just skip down to the -- well, actually I want to ask you one more thing.

A. Sure.

Q. It looks like on the low suction pressure, and I think I've tried to label those 1, 2, 3, maybe on there.

A. Yeah.

Q. Also in pairs. It looks like there's three low suction pressures, and, again, I've got one that doesn't look like it clears.

A. Okay. So he's got two. I see the first two, one and

two.

Q. Okay. And down, I think it's towards the --

A. Where do you see the second one?

Q. Mine aren't labeled. Yours are. Maybe down in 1633.

A. So at 1633 there's another low suction pressure.

Q. That one I don't think I've got a clear on. So what does that mean? We don't know if he acknowledge it or if he acknowledged it, would I have a cleared on there?

A. If he acknowledged that alarm?

Q. Um-hum. Or would I not know?

A. Well, if he receives a low suction alarm, an audible, he would acknowledge it.

Q. But it wouldn't go away, right?

A. I don't see it clearing. I see --

Q. Yeah.

A. -- he's closing, sectionalizing valves.

Q. Right. So he would acknowledge it. It would end up over the acknowledged window and sit there.

A. I don't (indiscernible) that actually sits on the acknowledged alarm, no. If he acknowledges it, it might disappear.

Q. Okay.

A. This is the active alarm panel. So it might show up on the historical alarm panel.

Q. Okay.

A. As to whether he has those panels up, I don't know.

Q. So that's something we'd have to request separately, historical alarms? Is that correct? Curt can look (indiscernible). Okay.

MS. BUTLER: It sounds like we'd have to request separately the acknowledgement of those.

MR. DONALD: So where did -- you got this from --

BY UNIDENTIFIED SPEAKER:

Q. These are pulled from these data text files that were supplied to us.

A. Okay.

Q. For each station on 6B.

A. Okay.

Q. They're just sorted, segregated. That's where they're from. Okay, so I'll move down the list now to the big event, which was the MBS alarm.

A. Yes. 1679.

Q. I'm sorry. What's the number there?

A. 1679. Five-minute alarm.

Q. Right. Yeah. That's where he gets that first alarm.

A. Yeah.

Q. Okay. So that's the alarm he gets where he calls your shift mate, Allister, right?

A. Right.

Q. And he is -- per procedure -- at this point I really

want to walk through procedures, and make sure we look at that alarm list. But since -- I mean it's really the shift lead's responsibility to understand procedures, right? That's kind of -- is that --

A. That's everybody's --

Q. Operators as well?

A. Yeah.

Q. Okay.

A. Sure.

Q. So when he gets that MBS, he's supposed to notify shift lead, which is sounds like that was done, right?

A. MBS analyst and the shift lead.

Q. Okay. See I don't see -- it just says shift lead on this one, right? Is he supposed to also call the MBS analyst directly?

A. I think he did in that case.

Q. Okay. You said later on you had a discussion with the group where maybe procedure wasn't being followed.

A. Just the order of procedures, but the shift lead and the analyst both have to be informed.

Q. Okay, well that -- I don't read that here. It just says pipeline operator notify shift lead.

A. Right.

Q. Okay.

A. Okay. So I think that was done. He called out.

Q. He did, but --
A. Yeah.
Q. -- does this need to be updated then to say pipeline operator notified shift lead and mass balance analyst?
A. Yeah, should be.
Q. Okay. Because you're telling me that's the way it's supposed to be done, right?
A. That's --
Q. Okay.
A. That's what we'd asked, that they identified the MBS alarm with the analyst and with the shift lead.
Q. Okay.
A. Yeah.
Q. And then it says the shift lead, yourself --
A. Correct.
Q. -- or Allister, I suppose, is tasked with assessing the alarm, which looks like really just looking at -- seeing if it was a five-minute, two-hour.
A. Um-hum.
Q. And then from there, really from there you're supposed to execute the MBS alarm analysis by MBS support procedure, right? So to me it looks like the pipeline operator is going to the shift lead. The shift lead is supposed to become the front line, first guy to say, man, we're not going to look at it, yeah, we're going to look at it. Is that accurate? Because that's how I read it

here.

A. Interpretation, yeah. We usually tell the analyst on the (indiscernible).

Q. Yeah. It seems -- that's what I've heard too.

A. Yeah.

Q. Looks like you always inform the analyst.

A. Oh, we had to in the past.

Q. Okay.

A. Because we didn't have him on shift with us. He was remote. So now he's on shift.

Q. So it's rare or it's never that the shift lead chooses to execute the temporary alarm procedure on his own?

A. Shouldn't.

Q. Okay. You always go through the mass (indiscernible). Okay. And then if I go to MBS leak alarm analysis by MBS support, the shift lead notifies MBS support. And then I see if after 10 minutes an analysis of the alarm is not complete, you shutdown the pipeline, right?

A. Correct.

Q. Okay. But if the MBS support advises the alarm is valid, then you execute the MBS valid alarm procedure, right?

A. Yeah.

Q. So in this case when the MBS analyst calls back and says it's column separation --

A. Right.

Q. -- is that a valid alarm or a temporary alarm? What does that mean?

A. Sounds to me temporary.

Q. Oh, it does?

A. Well, he says it's a column separation and the alarm is cleared.

Q. In this case, that's true, okay.

A. Yeah.

Q. So that would send you down the temporary alarm path, which is really no action, okay. So then I've got -- I did -- I think I found the procedure that people are referring to. Is this -- can you just tell me if this is it? It's entitled column separation documentation. Is this the procedure we were referring to that's --

A. Okay.

Q. -- adhered to?

A. This is, yeah, this is the one that we are going to --

Q. Okay.

A. Yeah.

Q. Yes, that I've been asking about?

A. Yeah, yeah.

Q. Okay.

A. This is the new one, yeah.

Q. That's a new one?

UNIDENTIFIED SPEAKER: That's since the accident.

MR. DONALD: Since Marshall.

BY UNIDENTIFIED SPEAKER:

Q. Oh, okay. So that didn't exist before. So on the 25th of July, there was no reason for anyone to fill this out because it never -- it didn't exist.

A. Correct.

Q. Okay. So can we walk through that form a little bit? You can tell me what --

A. Sure.

Q. -- the intent is on that. Let's start at the top. I mean when -- who fills this form out?

A. Okay, the operator is probably going to have to fill this form out.

Q. Okay, the operator.

A. Yeah. With the shift lead oversight, I'm assuming.

Q. And he's got two choices at the top, MBS hydraulic model.

A. Right.

Q. So that means that first choice, MBS hydraulic model means he got an MBS alarm.

A. Correct.

Q. Okay.

A. Yeah. Well, actually the MBS hydraulic model is just a visual. We'd be looking at the head pressure dropping below the elevation.

Q. Okay.
A. Yeah.
Q. Yeah, that MBS screen, if he sees those two touching.
A. Right.
Q. Okay. So he checks that box. So then what's the next one? Static radiant calculation.
A. Static radiant calculation, yeah. So that would be looking at the pressure at a location. Okay. So be looking at the upstream discharge or downstream suction of a column separation distance or section.
Q. Okay.
A. Okay. So we'd be looking at whether or not we could calculate the static gradient on the existing pressures.
Q. So you could -- you would check both boxes or -- I mean when would you calculate it if it --
A. Well --
Q. -- got the MBS screen in front of you?
A. Yeah. Well, the MBS hydraulic model is there, and like I said, if the model is correct, then we could use that.
Q. Okay. If not --
A. If we were going off the hydraulic model, I'd probably like to have maybe some confirmation with the analyst that we actually have a column sep in that area.
Q. So this one here would have to be done -- static gradient calculation --

A. Yes.

Q. -- would be performed by the MBS analyst?

A. No, that would be done by the operator, oversight shift lead and --

Q. Oh.

A. -- if we need --

Q. Yeah.

A. -- and if we need engineering.

Q. Okay, so is this the calculation that you were talking about earlier in the conversation that you have to check?

A. Yes. This is the --

Q. The (indiscernible).

A. Yeah, with our procedure.

Q. Okay. Now then I see below that we go into probable cause.

A. Yeah.

Q. Okay.

A. Okay, so you want to walk through each or --

Q. Yeah, I mean --

A. Historical.

Q. -- you have multiples here or is it usually one?

A. Usually I would say it's one. It could be a combination of the two, but operations historical previous operation. So unknown location.

Q. Okay.

A. Maintenance activities. There might be (indiscernible).
Q. Okay.
A. With regard to maintenance. The elevation profile itself.
Q. Okay.
A. Equipment malfunction. Suspected leak.
Q. Are these in any -- are these in order of importance or is there any rhyme or reason to the order that those are listed?
A. No, I don't think so.
Q. Okay. So that's pretty self-explanatory.
A. Um-hum.
Q. Then we get down to a response.
A. Right.
Q. And what's the intent here? It's just you're going to address how you're going to bring it back together?
A. Correct.
Q. Okay. And this is --
(Simultaneous comments.)
A. So we would --
Q. -- calculation.
A. -- estimate the volume, flow required and the time to restore the flow, so.
Q. So your flow rate would always be set -- I mean you're really dividing your volume by your flow rate.
A. Correct (indiscernible) yeah.

Q. And you would just select a flow rate that would keep you under your 10 minutes? Is that --

A. The flow rate would be based on --

Q. Deliveries?

A. Yeah. Well historical.

Q. Oh, okay.

A. So --

Q. You wouldn't select a flow rate to achieve your --

A. Well, we don't operate on flow control. We operate on pressure flows.

Q. Okay.

A. But there are standard flows for each pipeline.

Q. Okay.

A. So we have what we call a minimum flow, which would be just over laminar (ph.).

Q. Okay, sure. What is laminar on -- how many feet per second?

A. Oh, gee.

Q. Okay, forget that. So after this, who has to sign off, the operator?

A. The operator.

Q. Shift lead.

A. The shift lead. Yeah.

Q. Management.

A. And management is required, yes.

Q. But the intent of this form is really for -- you're already shutdown. This is for startup, right?

A. Correct.

Q. Okay. So the introduction of this form really doesn't address what occurred on the 25th. The intent of this form is to fix what occurred on the 26th. Is that correct?

A. It could be used to address what happened if there is -- like I said, if the line hadn't started up on the 26th.

Q. Well how would this have helped you on the 25th?

A. Like I said, it doesn't really address a shutdown line.

Q. Okay. Well --

A. Other than probable cause.

UNIDENTIFIED SPEAKER: Please indicate the (indiscernible) confirm column separation. So it gets -- it certainly gets started. I don't know what --

BY UNIDENTIFIED SPEAKER:

Q. Well, is that the intent of the form? I guess I should ask first off.

A. I'm thinking that is the intent of the form, to identify it before you start up into a --

Q. Before you start up.

A. So you would -- yeah, but you would be identifying the column separation on the shutdown line. That's the intent.

Q. But this form wouldn't be looked at until they went to start it up, 10 hours later, right?

A. Well, depending on the time, yeah. We are little more cognizant of that now. We're watching for column separation.

Q. Okay. So no procedure has been introduced that really touches upon what happened on the 25th is what I guess I'm driving at? I mean this maybe is a start, but I don't really see this being anything that addresses what I saw on shutdown. Is that accurate or not? I'm asking you. If that would have fixed it on the 25th, I'm interested to hear how.

A. In that the column separation would have been identified?

Q. Well, it would have forced someone --

A. To look at it.

Q. -- look a little deeper at trends or --

A. Yeah.

Q. Right. Would that form -- would this form have accomplished that on the 25th?

A. It could have.

Q. But it's not required to be filled out until startup though, right?

A. No, my --

Q. Oh, okay.

A. -- understanding is we have to identify a column separation. This was done for 6B?

Q. Yes.

A. Yeah. So this, this document particularly was set up

for 6B. It's now being (indiscernible).

Q. Okay. So if we go back to the 25th --

A. Yeah.

Q. The MBS alarm comes in, and it clears, but he still has a column separation indicated on his screen. Then Dave Scott would have had to fill this form out.

A. Yes, probably --

Q. That's the intent?

UNIDENTIFIED SPEAKER: Curt, I'm looking at you as well.

MR. GOLDSON: Yes, that's the intent.

UNIDENTIFIED SPEAKER: Okay.

MR. DONALD: Yeah.

UNIDENTIFIED SPEAKER: Okay.

BY UNIDENTIFIED SPEAKER:

Q. And at what point -- I don't have the sheet in front of me anymore.

A. Sure.

Q. At what point do you think people would -- so maybe under probable cause it would have forced somebody to dig into trends?

A. Yes.

Q. Okay. Because it does say elevation profile, and he would have said, I don't have -- okay. Operations historical. Okay. So maybe he would have seen it if he --

A. Looked at the historical alarm.

Q. Okay.

A. Historical, yeah. Yeah, he might have. I think the intent is to get the operator to look --

Q. Does he have to actually printout that trend and supply it with the form? Is that a requirement? It's just a checkbox, right?

A. Yeah.

Q. I mean -- anybody could check it.

A. We'd be interested in how he calculated his volume.

Q. Okay.

A. In the separation.

Q. That's down here?

A. Yeah.

Q. Okay. So I didn't realize this was a new form.

A. Well, it was after -- in the last couple of months.

Q. Yeah.

UNIDENTIFIED SPEAKER: Post 25th.

BY UNIDENTIFIED SPEAKER:

Q. Is there ever oversight on shutdowns or startups? Is there ever oversight? I mean do you oversee every startup --

A. No.

Q. Okay. Should there be?

A. No.

Q. No. I mean it's a transient process, right? I mean you

recognize there's --

A. I think after construction periods where the line has been down for a long time we would probably -- we'd watch them on startup.

Q. I think that's all I have.

MR. NICHOLSON: Karen, is there anything else you want to cover?

MS. BUTLER: About five real quickies.

BY MS. BUTLER:

Q. Have you ever requested enhancement to the control room?

A. Have I ever requested a --

Q. Enhancement to the control room. Could be to the SCADA system. Could be to something else.

A. In the past, yeah, we've requested. There are SCADA forms to fill out for if there are transmitters place in the wrong locations or if the screen doesn't look proper.

Q. Okay. What's that SCADA form called?

A. That's a SCADA request form, and it handles a whole bunch of different issues regard to SCADA.

Q. Okay. Would that also handle like field relocation of transmitters like you just mentioned?

A. The form would identify that the SCADA display is incorrect.

Q. Okay.

A. And it has to be changed according to the PMID.

Q. Okay. When you've made the requests, have they been acted on?

A. Yes.

Q. You think that process works pretty well?

A. Yes.

Q. Is the LPM system only designed to work on over pressure to your knowledge?

A. Line pressure monitor? Yes. For the most part.

Q. Okay. Have you ever heard the term span of control?

A. What was the name, span?

Q. Span of control.

A. S-p-a-n?

Q. Yes.

A. Have I ever heard the term?

Q. Right.

A. No.

Q. Why do you think somebody should use an emergency stop?

A. Why do I think somebody? If we have a reported leak on our system.

Q. Okay.

A. Yes. There are -- most of our pipelines, the one that don't have natural gas liquids in them, we can use emergency stop on those.

Q. Okay. Would it only be in the event that you thought you -- you know you have a leak so to speak?

A. Correct.

Q. Okay. All right. Who developed the form that we were just reviewing? Do you know?

A. I believe our training department had some input on it. I can't be certain.

Q. Were you provided an opportunity to critique it and check into its value?

A. I don't know, Karen.

Q. Okay.

A. Yeah. No, I don't think so, but I don't recall.

Q. Why do you think they would create a form that an operator has to fill out? He's already pretty busy.

A. Um-hum.

Q. As opposed to like just requiring them to simply review pressures. Is there any thought that you would have on that?

A. Well, again, it's to remind them they've got to check their pressures. That's --

Q. Okay. So --

A. So if they have an indication that they have column separation or any anomaly really, that they're not certain of, is to get support, tell them look, find out what's wrong.

Q. Okay. So is there anything that would prompt you to believe that you need a form as opposed to just covering that training and making it a requirement in procedure that they check their pressures when they do a shutdown?

A. Other than this form?

Q. Yeah. I mean I'm trying to figure out why you need a form as opposed to that requires the operators to do more homework clearly.

A. Yes.

Q. As opposed to just checking their pressures and histories. Is there any thought you have on that as to why it would be more beneficial or --

A. Well, we've identified, I think, from the Marshall incident that a column separation just can't be taken for granted. I think we're looking at it a lot more seriously as a result. Like I said, we identified this Achilles heel possibly in the way we train our operators.

Q. Okay.

A. And so I think this will go some way to remediate that, so.

Q. Okay. Do you know of any request that was done of the control room as to how they would suggest handling column separation not be taken for granted?

A. So you're asking me if there was a request --

Q. Yes.

A. -- of the control center not to take it for granted?

Q. Like I'm asking you if -- did anybody send out a request to get information from controllers and shift leads on how they could implement something that would help make column separation

not be taken for granted?

A. That's an ongoing discussion since Marshall.

Q. Okay. So more specifically, when I listened to that form --

A. Yes.

Q. -- and the elements that we just checked through, that in my mind is not what a controller would tell you they think they need to review to prevent a column separation. It sounds to me like it comes from somebody that doesn't operate. Now maybe that's not correct. So I'm wondering if they got any operating input when they put that form together.

A. I can't be certain of that, Karen.

Q. Okay.

A. I know we've addressed column separation before in the way operators shut their pipeline down.

Q. Okay.

A. So that we try to keep the column as best we can. So that's been the history of column separation.

Q. Okay.

A. And for the very fact that it helps you should have you column intact, it would help identify a leak a lot faster.

Q. Okay. So --

A. I think the -- I don't know if it's the be all (indiscernible) solution. I think the engineer who can come up with identifying a leak in a column sep, I'll give them a million

dollars right now. But there are things --

UNIDENTIFIED SPEAKER: We're being recorded.

MR. DONALD: I know, but there are things we can do, right? I mean I don't know that systems engineers have to have their models that they can actually pick off a leak from a column sep.

UNIDENTIFIED SPEAKER: All right, and so yeah, the idea is that you stay vigilant and pay attention, look at your (indiscernible) and I guess that --

MR. DONALD: Yeah, I think the whole purpose of doing this exercise that we're in today is to heighten that awareness of the safety sensitive issues that we have here, so.

MR. NICHOLSON: All right, thank you.

MR. DONALD: Can I ask a question of all of you?

MS. BUTLER: Sure.

MR. DONALD: Am I allowed?

MR. NICHOLSON: Yes. Sure.

MR. DONALD: I don't --

MS. BUTLER: Do you want it on the record? Do you want it off?

MR. DONALD: No, it can be off the record.

MR. NICHOLSON: Okay. Why don't we see -- Ravi, you have any other questions?

MR. CHHATRE: I have no more questions.

MR. NICHOLSON: Brian, are you finished?

MR. PIERZINA: No, I'm done.

MR. NICHOLSON: Karen, you're finished/

MS. BUTLER: Yeah.

MR. NICHOLSON: Okay. I'm done. I think at this point, Jay are you --

MR. JOHNSON: I am done.

MR. NICHOLSON: Okay. Then why don't we go ahead and conclude this portion of that interview.

UNIDENTIFIED SPEAKER: Did Karen want to make some IRS on the record?

MR. NICHOLSON: You want to make IRS on the record?

MS. BUTLER: I think I can make them off the record.

MR. NICHOLSON: I agree. Okay. I'm going to conclude this interview. Thank you.

(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 Robert Donald

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.

_____
Katherine Motley
Transcriber