UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

Interview of: KEITH MILLER

Crowne Plaza Hotel Edmonton, Alberta Canada

Tuesday, January 31, 2012

The above-captioned matter convened, pursuant to notice.

BEFORE: MATTHEW NICHOLSON Investigator-in-Charge

APPEARANCES:

MATTHEW NICHOLSON, Investigator-in-Charge Office of Railroad, Pipeline, and Hazardous Materials Investigations National Transportation Safety Board



BARRY STRAUCH, Ph.D. Supervisory Investigator National Transportation Safety Board

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| 1 | <u>INTERVIEW</u> |
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| 2 | MR. NICHOLSON: This is NTSB Pipeline case number DCA- |
| 3 | 10-MP-007, Enbridge Energy July 2010 crude oil release in |
| 4 | Marshall, Michigan. These are the Human Factors Group interviews |
| 5 | being conducted at the Crowne Plaza Hotel in Edmonton, Alberta, |
| 6 | Canada. Today is Tuesday, January 31st, 2012. |
| 7 | This interview is being recorded for transcription at a |
| 8 | later date. Copies of the transcripts will be provided to the |
| 9 | parties and the witness for review once completed. |
| 10 | For the record, Keith, please state your full name, with |
| 11 | spelling, employer name, and job title. |
| 12 | MR. MILLER: Keith Miller, K-e-i-t-h, M-i-l-l-e-r. And |
| 13 | my job title is control center terminal operator. |
| 14 | MR. NICHOLSON: And you are with Enbridge, correct? |
| 15 | MR. MILLER: With Enbridge Pipelines. |
| 16 | MR. NICHOLSON: And, for the record, please provide a |
| 17 | contact phone number and e-mail address. |
| 18 | MR. MILLER: It's my work number. And my |
| 19 | work e-mail is |
| 20 | MR. NICHOLSON: Okay. Thanks, Keith. Keith, you're |
| 21 | allowed to have one other person of your choice present during |
| 22 | this interview. This other person may be an attorney, friend, |
| 23 | family member, co-worker, or no one at all. If you would, please |
| 24 | indicate whom you have chosen to be present with you during this |
| 25 | interview. |
| | |

1 MR. MILLER: I elected nobody. 2 MR. NICHOLSON: Okay. We will now go around the room 3 and introduce ourselves for the transcripts. My name is Matthew 4 Nicholson. It's spelled M-a-t-t-h-e-w, N-i-c-h-o-l-s-o-n. I am 5 the NTSB IIC. My phone number is My e-mail is 6 7 My names are Kalu Kelly Emeaba, spelled MR. EMEABA: K-a-l-u, K-e-l-l-y, E-m-e-a-b-a, from NTSB and I'm the group --8 9 SCADA Group chairperson. My phone number is and my 10 e-mail address is 11 Jay Johnson with Enbridge, Supervisor U.S. MR. JOHNSON: Compliance, 12 13 MR. BUTLER: Karen Butler, K-a-r-e-n B-u-t-l-e-r. I'm 14 the Accident Supervisor -- actually Supervisor of Accident 15 Investigations for PHMSA 16 It's and my number 17 is 18 DR. STRAUCH: I'm Barry Strauch with NTSB, B-a-r-r-y, 19 S-t-r-a-u-c-h. My number is and my e-mail is 20 21 INTERVIEW OF KEITH MILLER BY MR. NICHOLSON: 2.2 23 Okay. So to begin with, Keith, I think we want to go Q. 24 back in time a little bit to July 26th, 2010. And can you tell me 25 were you on shift on July 26th?

1

A. No, I wasn't.

Q. Okay. When were you on shift back on that -A. I was on vacation, so I'm not sure when I came back
4 after vacation.

5 Q. Okay. So July 25th-26th you weren't in the control 6 room?

7 A. No.

Q. Okay. Can you tell us what console you work on and -A. I work --

10 Q. -- kind of show us relative to the -- Line 6B maybe 11 where you work?

A. I would be working at either the Griffith or Hardisty, so at Line 6 -- Line 6 would be here, Griffith is here, and then Hardisty here, and then Line 4 would be here, I think, something like that.

16 O. So is that 6B?

17 A. Yes.

Q. Okay. And can you just write out Griffith and Hardisty so we don't forget? So can you also put for us that -- where would the MBS and shift lead be in that room just so we can orient ourselves?

- 22 A. It would be the -- the MBS?
- 23 Q. Yeah, or the shift lead.

A. Well, I guess -- yeah, out front, I guess.

25 MR. JOHNSON: At the time?

1 MR. NICHOLSON: Yeah, this is 2010.

2 MR. JOHNSON: Not today?

3 MR. NICHOLSON: Not today.

4 MR. MILLER: Well, it -- that's there like up front 5 meaning I'm not sure where up front because, you know, the room 6 kind of went --

7 MR. JOHNSON: Oh, then it was down the hall?

8 MR. MILLER: Yeah, like so it kind of --

9 BY MR. NICHOLSON:

10 Q. Well, top or bottom of the page. Let's just -- that's 11 all we're looking at.

A. To me, it would be on the top here because this would be -- like I'd be facing that way, you know, like how it would be facing this way? It would be up here.

15 Q. You're Griffith?

16 A. Yes.

Q. Okay. So you'd be facing the same direction as TimChubb, if he were there with you?

19 A. Yes. Yes.

20 Q. Okay. So the MBS would be to your back?

21 A. Yeah, I do believe.

Q. Can you just -- can you sketch that so that's accurate?
A. I would say it's up here somewhere.

24 Q. (Indiscernible) since we know where very few desks are

25 and that helps us orient ourselves.

1 Yeah. You know, I do believe the shift lead is -- like Α. 2 I don't really know exactly where I can --3 That's fine. That'd be MBS. I know about --Ο. It would be rough -- they'd be up close to --4 Α. No, I understand. This isn't to scale. I'm just -- I'm 5 Q. 6 trying to get a relative idea --7 Α. Yeah. 8 -- of where you are in relation to them. Q. 9 Α. Yeah. 10 Q. Okay. 11 I think there'd be a few consoles in between. Α. 12 Q. Okay. Terrific. So you weren't there the day of? 13 Α. No. 14 But you had worked before then with Tim Chubb? Q. 15 Α. Yes. 16 Ο. Okay. 17 Yes, I did. Α. 18 And you'd worked before then with Ghazal? Ο. 19 Yes. Actually, this would have been my shift if I'd Α. have been on. 20 21 Ο. Oh. 2.2 If I wasn't on vacation. Α. 23 Who was covering for you then? Q. 24 Α. Whoever the swing people was. I think Keith Carter might have been on that night. He could have been swing that --25

I'm not quite sure who was swing. I thought Keith Carter and Dave Maticce was working that night, so one of them would have -- I think it -- I think me and Dave was on that year together so I think it was Keith Carter, I do believe, but I'm not 100 percent sure on that.

Q. Okay. And Keith, can you give us a little background?
When did you come to work at Enbridge and how long have you been
an operator

9 A. Okay. I started with Enbridge in 1979 and I moved up to 10 the control center like in various -- I was on the PLM crew back 11 then, but I started up in Edmonton in 2001 when they kind of 12 amalgamated the control center up here.

Q. So in 2001 you started working in the control center?A. In the control center, yes.

15 Q. And prior to that you were in a PLM shop?

16 A. Well, prior to that I was in the pipeline maintenance 17 and then I was in the Kerrobert terminal.

18 MR. NICHOLSON: Okay. I guess I'll pass it over to19 Barry.

20 BY DR. STRAUCH:

21 Q. Since 2001 what was your role at Enbridge?

A. It was either working at the Griffith terminal or theHardisty terminal.

Q. Okay. And that's -- this is that time?
A. Yes.

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9

1 Q. Okay. And could you go over your educational background 2 as well?

A. Just basically 8 to 12 and then experience in the field.
Q. Okay. Have you worked for any companies other than
5 Enbridge or in addition to Enbridge?

A. Well, in -- 33 years in 51, so pretty much Enbridge,
7 yeah.

8 Q. You must like it.

9 A. Yeah, it's been good.

10 Q. What's good about it?

A. I don't know. It's -- it treats everybody good and it's a good company to work for.

13 Q. Okay. What makes it good?

A. I guess the people. The people make it good. I think for -- you know, for -- I came from a small town so in a small town working for Enbridge was a good job, good paying job.

17 Q. I see. How would you characterize the shift leads?

18 A. Good. Good people. They are, you know, I'd say pretty19 intelligent, pretty dedicated.

20 Q. Have you had occasion to approach them with problems or 21 difficulties or things like that?

22 A. Yep, yep. They're pretty open to it.

23 Q. On your shifts who were generally the shift leads?

A. Back then?

25 Q. At the time of the accident.

A. Yes, Aaron and Darin was my -- would have been because
 that was my regular shift.

3 Q. Okay. And how would you characterize their supervisory 4 skills?

A. I think good. I think, you know, honestly they were, you know, like maybe a little green but they were good in, you know, like in their -- to talk to and to approach and their knowledge for -- you know, for what I could see for, you know, for not probably, you know, maybe experiences, you know, as long as, you know, some people working there.

11 Q. I see. How about their personal skills? How would you 12 characterize them?

13 A. Very good.

14 Q. So in terms of approachability were they easy to talk 15 to?

16 A. Yes.

17 Q. Have you ever discussed -- had any kind of serious 18 issues with them that you raised?

19 A. No.

20 Q. Okay. Are you aware of other people who raised issues 21 with them?

22 A. Not -- no, I'm not aware.

23 Q. Have you ever seen either of them criticize other 24 controllers?

25 A. No.

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11

1 Q. Have you ever seen any shift leads criticize 2 controllers?

3 A. No.

4 Q. Were you -- you knew Ghazal and --

5 A. Yes.

6

Q. Okay. What kind of operator was she?

A. I didn't think she was a very good operator, personally, because I just thought she was really green and she -- I just didn't -- you know, I -- you know, not -- you know, I don't -- you know, she wasn't there very long so that's -- you know, any new operator is green and she was definitely, you know, to me, in my opinion.

13 Q. Did you see the kind of improvement you would expect to 14 see over time as she got more experience with her?

A. Not as much as I would expect personally, like, you know, she just -- there's always a few things that I always just thought her operating wasn't to me the best, but she -- you know, she did it, you know. I guess she did her job, but --

19 Q. Could you describe some of them, those few things that 20 you're talking about?

A. Well, just little things like, you know, when -- okay. Just for instance, so if I turn on a pump you should see a pumping boost in pressure and she'll always ask is your pump on? Well, are you not watching the pressures? You should see that pump. You know, like I can see sometimes when the pressure is high you

might not see it, but, you know, like (indiscernible). But she'd always be asking or, you know, did you not -- or if you drop your pump there's a big in pressure. Well, did you not see the drop in pressure? Stuff like that that to me, like, I didn't like the way, like, are you not watching your -- you know, like those little things, personally.

- 7 Q. Was she friendly?
- 8 A. Yep.

9 Q. So did you feel -- what was it like talking to her?
10 A. It was good. It was good.

11 Q. Okay. What about her shift mate Tim Chubb?

12 A. Good I thought. Good worker, good guy.

13 Q. And did you see that kind of same traits in him that you 14 saw in Ghazal?

15 Α. Personally I thought he was better, but honestly he was still green to me, but he -- you know, like he didn't -- you know, 16 17 like I say, Ghazal you definitely noticed the -- you know, when 18 you asked for a pump you see it boost, you know, the pressure pump 19 up you should know (indiscernible). You know, like, you know, you should know that things -- okay, you know, yes the pump is on, 20 21 but, you know, like -- and I could see maybe she's just trying to 22 confirm, but it's like, you know, then ask me, you know, oh I see 23 the pump. Okay. I know your pump is on. It's little things like 24 that I just thought that --

25 Q. Um-hum. How well did Ghazal and Tim Chubb get along?

1 A. I'm not sure. I'm not sure. If they didn't it wasn't 2 noticeable.

3 Q. I see. How would you describe the environment in the 4 control room?

5 A. It's a pretty good environment I think. It's -- you 6 know, it's a good working outfit to me.

Q. Um-hum. Do people feel comfortable in your opinion raising issues with their supervisors?

9 A. Yes and no I guess. Yes meaning that as long as it --10 it probably depends on what they want to raise I guess maybe.

11

Q. What kind of issues would be a no?

A. Well, I don't know. Like that's just it like it's just -- you know, like, it's like any kind of workplace, you know, like there's certain things that, you know, not everything that -- you know, like, you never like everything, so, you know. But I think for the most part, you know, like if it's something that was critical you could raise but, you know, it's, you know, little things that everybody complains about.

19 Q. Those are the things that you think that you wouldn't 20 want to raise with the --

A. Well, it's just -- yeah, like probably. Yeah, I would
say yeah.

Q. Could you give us examples of what these might be?
A. Well, just -- I don't know if they want to hear, you
know, like that, you know, certain things that you don't -- you

know, like they implement that, you know, you'd say, well, you 1 2 know, that you might not disagree, you know, like kind of --3 DR. STRAUCH: I see. Okay. Keith, I don't have any 4 more questions at this point so I'll pass it on to Karen. BY MS. BUTLER: 5 6 Ο. I think really just one, Keith, and this is just going 7 to be taking advantage of the fact that you've been in the control room so long and probably have a lot to tell us from that 8 9 perspective. 10 Since you've been in the control room for an extended period you've probably seen lots of changes during that timeframe. 11 12 Is there anything that you're aware of that has not changed for the better? 13 14 No, not really. I couldn't think of something that Α. 15 would, you know --16 Nothing that comes to mind? Ο. 17 Nothing off (indiscernible). Α. 18 Okay. Is there anything that you believe should be Ο. 19 implemented as a result of this accident? 20 No, not really, no. Α. 21 Ο. Okay. BY MR. EMEABA: 2.2 23 This is Kelly Emeaba following with Karen's question. Q. Ι 24 just heard you mention a couple of people (indiscernible) Aaron (indiscernible) Mr. Darin, and Tim Chubb and Ghazal. And the 25

1 language you mention among them is the fact that you see them as
2 being green. Okay. So based on what she said, does that have an
3 impact in the activities on how the pipelines were being operated?

4 Α. No, probably not. The only thing would have been maybe 5 in their decision making maybe, but on -- how the pipelines 6 operate it's -- you know, once they've trained they can -- but, 7 you know, like I quess the more you've been there like for how long I've been there you look at all -- like, you notice all the 8 9 little details a lot more, which, you know, like that you'd 10 notice, you know, the newer people, like, you know, they (indiscernible), you know, like they know their stuff but they 11 don't look at all the -- you know, all the little details 12 13 sometimes.

Q. Okay. So if you can (indiscernible) on one or two, can you give us a little bit of an idea of some of the positions they took you wish they would have taken a different direction?

17 Α. Well, I think the different direction that they probably 18 should have and could have took is that, you know, if you're not 19 sure of something maybe, you know, like just wait, you know, like wait till there's -- you know, wait till morning, wait till -- you 20 21 know, like wait till there's more people involved, you know, like 22 instead of, you know, making that decision, you know, thinking 23 that, gees we got to make that decision right now. The pipeline 24 can stay down for four or five or six hours.

25 Don't be in a hurry to, you know, like get it going, you

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know, like just take your time. Like, it's -- you know, and 1 2 let's, you know, like let's, you know -- because they knew 3 something was wrong, but, you know, what -- they obviously didn't 4 know what was wrong and they should have just, you know, backed 5 off of it and just realized, okay, you know, a few hours from now 6 will be morning. Let's get maybe some guys out in the field to 7 check some (indiscernible) and see what's -- you know, little things like where I think had -- being green they thought, well, 8 9 no they -- you know, they overlooked -- more focus on getting that 10 line up and going.

Q. Okay. Prior to the incident which flowed into the 26th, have you also seen them in that form of taking a position in that direction of, you know, being erratic or quick to conclusions, apart from the 26th?

15 Α. I don't know of a quick decision. It's just that I think it's kind of the culture of, you know, we get paid to pump 16 17 oil and not, you know -- so let's, you know, like -- I quess my 18 opinion is just my opinion that, you know sometimes guys get a 19 little worried that, you know, like we can't have this line down 20 for too long, you know, and sit back and let's make a really, you 21 know -- like a better -- you know, like -- because they were more 22 worried about maybe starting that line up and getting it going 23 rather than, okay, there's something wrong here. Let's just stop 24 and let's sit back and evaluate it, you know. And let's take our time rather than maybe, you know, a little bit of, well, we'd 25

better -- you know, we'd better get this line going. 1 2 Okay. Do you see that kind of decision the shift lead Ο. 3 made in times of getting the line on a from them or do you think 4 probably they have a push from the supervisors to make sure that 5 the pipe is running? 6 Α. I think the culture is the push from up top, yeah, a 7 little bit. 8 Ο. Just from the top? 9 Α. Yeah. So more or less from the management side? 10 Ο. Yeah, because, you know, over the years -- I've been 11 Α. 12 here long enough that, yeah, you get that feeling. I don't if, 13 you know, like they -- but you get that feeling in that -- you 14 know. 15 MR. EMEABA: Thank you so much. I appreciate it. 16 MR. NICHOLSON: Jay? Do you have any questions? BY MR. JOHNSON: 17 18 Ο. Yeah, just kind of (indiscernible) your background, you 19 said you worked in the PLM and then did you work at Kerrobert? Kerrobert station, yes, at their utility. 20 Α.

Q. Yeah. And then -- so then you were in there and then you got up to like (indiscernible)?

A. Well, it was a utility there and then you did either
utility or operate like because it was just a small station.
Q. Uh-huh.

A. And then from there they were looking for guys from the field to come work in the control room up here when they first did it. And that's when I came up and I went to Griffith and trained for a bit.

5 Q. Okay. So you chose to come up? Because I know sometime 6 they close some of the control rooms. You chose to come up?

A. Yes. I could have, I could have stayed working down in
8 Kerrobert, but I chose to come up.

9 Q. Okay.

10 A. Because I liked, I liked to operate a terminal.

11 Q. All right. And then you went on to Griffith?

12 A. Yes.

13 Q. When they were running 6B out of there or --

A. When they were -- the terminal. I went -- before they
brought up the terminal here -- yes.

16 Q. Okay. So you worked down there with them?

17 A. Yes.

Q. Okay. And I would have to agree with your theory why is Enbridge good. Like I say, I've been here 30 years. I think Enbridge. I think Enbridge is pretty good too, but yet -- and then when you go back and try to think of what it's like, you know, how do you -- how do you relate that?

23 You had said that you felt as though there was a --24 maybe a culture, an unknown pressure from above to get the lines 25 going. Who's responsible for your terminal -- or your terminal?

1 Who's responsible? Who can tell you what to do and, you know --

2 A. Like, for my terminal?

3 Q. Yeah.

A. Well, I know it pretty good so I know, you know, like -5 like I don't have a lot of questions. Usually I'll know if
6 something doesn't -- isn't right, so I will, you know, like -- you
7 know, like most times if there's a problem I kind of know the
8 solution.

9 Q. So are you -- but from a responsibility standpoint no 10 one's going to tell you what to do on your terminal? Or what does 11 -- what's -- who was the final say?

12 Α. I quess it depends on what the problem is. Like I will 13 say my suggestion, then if the person says no we'll go -- you 14 know, we'll do -- like let's say if I think for, you know, doing 15 something that, okay, I don't say we'd better -- you know, I 16 suggest shut down, but if I get the shift leads telling me and --17 that, you know, we'll keep going, we'll do it this way, well then 18 I would, I would listen to the shift lead because -- but I would 19 do -- I would definitely give my suggestion of what I would, you 20 know, feel what is safe.

21 Q. So you're over the terminal and not the lines?

22 A. That's right.

23 Q. Okay.

A. Just the terminal.

25 Q. So just the terminal?

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A. Yeah. So, so like I say, I never ran a main line so I don't know what, you know -- I couldn't say nothing about the mainlines, but my expertise is the terminal.

Q. Okay. Have a lot of -- since the incident have a lot of new procedures come your way?

A. Not in the terminal per se. There's always been lots of procedures, but not as many I don't think has changed as the main line like on that situation. Because the terminal itself really, you know, like it's -- it had nothing really to do with -- because we don't -- you know, like we kind of monitor the stuff that goes out and in. Once it's in the pipeline, you know, when it gets to the other end I'm not -- you know, like I don't -- you know.

13 Q. Okay. So when you say Griffith that's

14 Griffith/Hartsdale?

15 A. Yeah.

16 Q. Okay. And the Kerrobert, that's the two that are --

17 A. Yeah, Hardisty -- yeah.

18 Q. Hardisty?

19 A. And Kerrobert together.

20 Q. No, but is it Griffith with Hartsdale?

21 A. Yes.

22 Q. Okay.

A. Yes. Yeah, that's all one (indiscernible) together,yes.

25 Q. All right. Yeah -- yeah.

1 MR. JOHNSON: All right. That's all I have.

2 BY DR. STRAUCH:

Q. I have some follow-up questions. You said you think that if there was -- the shift leads wanted things to happen that the pressure may have come from above, above them. Why do you say that?

7 Well, it's like -- it's like anything like it's -- what Α. I mean by the pressure above meaning that, okay, the -- we need, 8 9 you know, like the pipeline going. Like, if the pipeline is shut 10 down, well, why is it shut down? If you would shut it down for this reason that reason after awhile I'm sure, you know, somebody 11 12 above would say well, why do you keep shutting down the line? You 13 know what I mean? Like it does -- you know, like, they tell us, 14 you know, like which -- like, you know, if there's a problem you 15 shut it down, right?

And honestly, you know, for whatever reason they -- you know, like either they were worried about keeping it down or they just honestly didn't -- you know, like something went wrong that night to me. Like, you know, like honestly they knew something was wrong. And to me, I'm not sure why they wouldn't have just kept it down.

Q. Have you seen any change in this kind of pressure that you perceived in the time in the control office? You've been a controller for a while?

A. Yes. I'd say yes, it changed, but that -- but, you

1 know, like over the years it kind of seems like it always kind of -- roller coaster ride that way. Just my feelings, you know, like 2 3 just, you know, that's my opinion on that, like my feelings what I 4 get in, you know, working there that it just seems like, you know, they -- but they -- you know, there's always, you know, like when 5 6 you have to shut down the line it's always, you know -- it's, you 7 know, okay why is it down? You know, like, well, the guys out in the field, you know -- so they do pressure you, and -- well, phone 8 9 them to see how long it's going to take. Well, they'll phone me 10 when they're, you know, ready because --

11 Q. Right.

You know, stuff like that, you know, but I don't notice 12 Α. 13 it much anymore. But I noticed back then like any time you had 14 the lines down, we could -- you have shit down because of 15 something, you know, something happened somewhere and, you know, okay, you know, the guy's out there checking it. Well, can you 16 17 phone him to see how long? Well, he'll phone me. He knows, you 18 know, we, we, you know, we need this fixed before we can start up, 19 but you always seemed to get that -- you know, a lot of times asking well how long -- you know, like can you phone him? Well, 20 like, he knows, you know. 21

22 Q. Right.

A. So that's where I'd say that that pressure seemed like, okay, why are you pressuring me to phone the guy and bother him when he's working on the job and he knows we need it.

Q. Right. And you said you don't see this now, but you'd see it back then?

Yes. I don't see it as much -- I don't see as much now 3 Α. 4 that people there (indiscernible) well, you know, that pressure on 5 -- okay, can you phone him? 6 Q. Right. 7 See how long it's going to take. Α. 8 When you say back then, what timeframe are you referring Ο. 9 +0? 10 Probably more before that week, you know, because you Α. got a lot that I noticed, you know, like that. And it would 11 12 always irritate me like we got guys out there working. They know 13 that we need that equipment fixed, but they'll, they'll phone me a 14 soon as it's fixed.

15 Q. So by back then you're referring to the Marshall 16 accident?

17 A. Yes.

18 Q. Okay. Have you seen changes in the role of the MBS 19 analyst in the time you've been there?

A. I think it, it probably got -- the changes are more -they more or less kind of explained their role. Before, before that Marshall I don't think a lot of people knew the MBS role as -- you know, like it wasn't as defined as it is now.

Q. Okay. What was the role of the MBS analyst before the accident as you see it?

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24

1 Well, as -- like I say, I -- being a terminal operator Α. 2 you didn't deal with them a lot as much as the pipeline operator. 3 But my -- they were part of the -- you know, detecting leaks, but 4 it was more like they were just -- you know, afterwards they 5 explained they were more or less just to make sure that the model 6 is working right, not whether they -- you know, to find the leak. 7 They just -- their role now more is -- what I understand it more to make sure the model is reading correctly. 8

9 Q. Right.

A. So then we got more understanding that, okay, that we can pinpoint whether there's a leak or not. They're not supposed to -- you know, because they don't run the main line or whatever, so their job is make sure -- but before that I thought myself and a lot of people would assume they were kind of part of looking for leaks.

Q. So before the accident it was not -- well, what would be the typical kind of statements or conclusions that you would have heard from an MBS analyst?

A. You know, like I say I would -- I couldn't really say because one thing I didn't deal with them a whole lot. It was just what -- you know, from the room itself and what I just thought they were before that.

23 Q. Okay.

A. You know, but I did not deal with them very seldombecause they deal more with the main line.

- 1
- Q. Um-hum.

The only time, you know, you deal with them in the 2 Α. terminal is when something's not reading right they'll ask, okay, 3 4 why all of a sudden I'm losing my stuff? And maybe you're doing a 5 different flow path than that, so I -- you know, so their MBS 6 wasn't working because of that and then they would figure out a way of how to get it working back because we're maybe using a 7 different flow path. But I would not, you know -- you know, 8 9 really deal with them much.

Q. Okay. What about the shift leads? What kind of changes do you see in the role of the shift leads in the time you've been there?

13 Α. I'm not -- roles of the shift lead? For myself, you 14 know, like I think -- you know, I can't really say for myself 15 because like I say I think I know my job pretty good so I don't 16 really deal -- like I don't need to go ask them a lot of 17 questions, but I do see them, you know, like if somebody -- you 18 know, like certain people, you know, with the newer people 19 especially, like, if they're dealing with something they'd get -you know, like they'd definitely help out them a lot. 20

21 Q. Um-hum.

A. But for myself most of the time it -- what I use them for is hey, I need this and then they can -- you know, like SCADA, something with SCADA, so they'll do the phoning for me so I don't -- you know, I can concentrate on my work and they can, you know,

1 do that for me.

Q. Well, in the time you've been there the shift leads became more people managers rather than technical people. How did you as a control room operator see that -- those changes in the shift leads' performance?

6

A. How was that again?

Q. Well, there was -- Enbridge changed the role of the shift leads from technical specialists to become people managers and there was training given to them to become, you know, in terms of interpersonal skills and managerial skills and so on and so forth.

And my question to you is, as someone on -- as a subordinate to the shift leads did you see any changes in them that resulted from this reemphasis on their role from technical to interpersonal and managerial?

16 I don't, I don't think I've seen a lot. Like, they Α. 17 always were interpersonal, like that part is always there. I 18 quess some of the procedures maybe reflect that, you know, like, 19 you know, took it out of their hands. But I don't see -- you 20 know, like they always was good communicators. They always were, 21 you know, good that way, so, you know, like I don't think -- I 22 don't think it changed a lot because I always thought they were 23 good.

Q. Okay. As a terminal operator as opposed to a pipeline operator would you have had occasion to come up against the

1 10-minute rule?

| 2 | A. No. But if I do if they are starting into my |
|----|--|
| 3 | terminal, let's say starting a pipeline up, after you know, |
| 4 | like I don't time it usually if they say they're starting up. But |
| 5 | you usually have a sense saying, okay, why isn't why am I not |
| 6 | seeing flow yet? Because by you know, like and usually the |
| 7 | you know, like for me they'll say, well, we had to shut down |
| 8 | again and I'm just restarting, you know, give me a reason. |
| 9 | Because after so long you know that, okay, I should be seeing flow |
| 10 | here. |
| 11 | Q. Right. |
| 12 | A. You know, like why am I not? You know, and usually, you |
| 13 | know, they always have a good reason, you know, so but I don't |
| 14 | usually time I usually okay, they say, okay open up, okay |
| 15 | we're going to start up, so I'll write down the time. |
| 16 | Q. Okay. |
| 17 | A. And they are the ones that look after it. But I do |
| 18 | watch and I do notice and I do after a bit, like okay, I know |
| 19 | by now I should be seeing this flow. Why am I not? |
| 20 | Q. Okay. Well, we know in hindsight that the 10-minute |
| 21 | rule was exceeded the night of the accident. |
| 22 | A. Yes. |
| 23 | Q. Had you seen it happen before? |
| 24 | A. Yes. |
| 25 | Q. Okay. Can you tell us about the circumstances on which |
| | |

1 that happened?

2 I can't, but I know it being -- like there being times Α. that it was over. But there's some times -- a lot of times they 3 4 had a good reason because, you know, they were doing work on the 5 line so they knew that, you know, that there was work done, the 6 line drained and stuff like that. But, you know, like say for being terminal I don't really -- but I know there was times that 7 it was, you know, exceeded because a lot of times -- like with me 8 9 it was while they were doing work there was a section that they 10 drained out, so we're filling that section up. That's it, you 11 know.

Q. I see. Now, we've been told that there really is no good reason to violate the 10-minute rule under Enbridge's policies. But what you're saying is you have encountered situations where there were reasons where --

A. Yes, where they knew that, you know, like okay it's going to take over 10 minutes because there was work done on the main line.

19 Q. Uh-huh. Was it explained to people why the 10-minute 20 rule was being violated?

A. I would -- for myself they told me like because like I know that -- because like I say any time I worked and there was -it took longer than usual I would ask, okay.

24 Q. I see.

25 A. And then it would be okay we got this that's going on

1 and that's why.

2

BY MR. JOHNSON:

Q. Would that have been a time when they had people onsite if they did -- they had people onsite? Or -- when you say they're doing work on the line and it's empty?

6 Α. Well, that's -- they would -- either people onsite or 7 what would happen the work was done, you know, like the welding was done and everything and they were, you know, restarting up the 8 9 line and they knew -- you know, and that's over the years. I'm 10 not sure when -- but I know there was times where they, you know, they knew that this section was, you know, drained out so that's 11 12 what, you know, I got told, okay, you know, like why is it taking longer than -- you know, well, you know -- or they would -- before 13 14 they'd start out they said like it's going to take a little longer 15 because it's this work that was done.

16

BY DR. STRAUCH:

Q. So I know you said you were on vacation the night of the -- nights of the incident, but had you been on duty then and the 10-minute rule was violated as we know it was, based on what you just said that you had seen it violated before, what would your reaction have been when you heard that the line was started up for considerably longer than 10 minutes?

A. You know, it's hard to say after, you know, what I would have did that night, but I would have, you know -- so it's kind of -- you know, it's easy to say afterward, but --

Q. Have you ever observed a leak in a pipeline in your time at Enbridge?

3 Α. Observed a leak? Like hard to say, like I worked in 4 the terminals, so in Kerrobert, one nightshift I was doing my 5 rounds there was oil on the ground, so I did phone up to shut down 6 the line. Asked which line, well, I can't confirm so all the 7 lines shut down until I confirmed. Stuff like, you know, that. 8 Ο. But it has happened before? 9 Α. Yes. About how many times would you say you've encountered in 10 Ο. 11 your experience or observed a leak? 12 Α. Well, with being working a PLM crew and I went out and 13 fixed leaks before, yes. 14 Okay. My question is more as a -- from the control room Q. 15 perspective. 16 Like, from, you know, like -- you know, not very -- you Α. 17 know, like very few. I was maybe the few small -- you know, like 18 in the terminals like somebody phones up to say hey we got some 19 oil leaking. 20 Q. I see. 21 But I know Hardisty once, you know, maybe, you know, Α. 22 just a few times. 23 Q. Right. 24 But not very often. Α. 25 Of course one difference here is that the people onsite Q.

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not only did not confirm oil on the ground they confirmed just the opposite, you know, so they gave basically inaccurate information. Had you encountered that before?

A. Inaccurate? I guess -- I'm not sure about inaccurate, but like -- I'm not sure what you mean by inaccurate, but there had been times where you got inaccurate information, you know, like (indiscernible) you know, like, but --

Q. Okay. Well, I guess I'm trying to find out why the situations you experienced where you -- from the control room perspective whether you encountered leaks, it sounds like the control room operators handled it correctly and appropriately. I'm trying to figure out what was different about this occasion even though you weren't on duty then.

14 In your observations and your experience and in the time 15 you've had to think about it, what do you think was different here 16 than was different those other times in the control room?

17 Α. That's just it. I'm not sure what they were looking at 18 that night, what they thought, you know, what they contribute --19 you know, like why they thought it was other -- something other I think what -- I guess what they overlooked was not 20 than a leak. 21 thinking that -- seeing that it was -- the line was down and they 22 started up from scratch thinking that, you know, like that's 23 probably the worse case scenario where a leak, you're -- you know, 24 like -- and I think, you know, seeing it was down they -- I don't 25 know if they weren't thinking that it could be possibly a leak,

1 you know.

2 Q. I see.

A. Because of the -- it being down instead of thinking it -- you know, it probably -- you know, it was a leak there just thinking oh it was down so I can -- you know.

Q. Okay. As a follow-up on Kelly -- what Kelly asked you, you have characterized a number of people in the control room as green, both the shift leads and operators. Again, in your experience how big of a factor do you think that was in the misdiagnosis of the leak in Marshall?

I think it -- quite high I think because, you know, like 11 Α. 12 just not being around for, you know, as long as I've been like and not realizing -- like a lot of -- like that's the only thing I can 13 14 contribute why -- like it wasn't -- that's why they did what they 15 did because it wasn't because they weren't, you know, good workers 16 or anything like that. It was just that they, they honestly, you 17 know -- they weren't honestly thinking leak for some reason. I'm not sure why. 18

Q. Um-hum. One of the things we've heard is that sometimes controllers have trouble sleeping when they're -- when it's their shifts. Have you heard of that before?

22 A. N

Not really, no.

Q. Okay. What would that tell you about a controller who has trouble sleeping when he's on -- when he's on duty? Not sleeping when he's on duty, but --

1

A. Sleeping --

2 Q. Yeah, sleeping at home afterwards? What would that tell 3 you about that person?

A. I'm not sure because I don't usually have trouble sleeping because it's -- but, I know everybody's -- you know, like when you work shift work everybody's different and you got to find that routine that works for you.

8 Q. Um-hum.

9 A. And if you don't I guess maybe that's why you have 10 trouble, you know, getting the proper sleep, but -- but, you know, 11 like one -- you know, everybody's probably a little different, so 12 how -- you know, your routine -- how, you know, to get good sleep.

13 Q. Right. So you attribute it to shift work?

A. Yes. Yes. Anytime any -- I don't think who you are, if you're working nightshift is -- you know, you -- you know, anybody that works nightshift, you know, like you got to find a routine to have a good sleeping pattern so that you are rested.

18 Q. And how does one -- what kind of routine would one 19 develop to enable one to sleep sufficiently?

A. I don't know. You just find -- like I know my routine it seems to work good for me, so every -- I think, you know, like you got to get so much sleep. But how you get it is -- you know, like for me I get home, I'll sleep four hours, and I got to get up because there's not point, but then I'll sleep another two to three hours before I come to work, you know. Like I'll usually

1 try and get that like, you know, so many hours in, but it's broken 2 because if I try and sleep it all -- it just doesn't work anyway. 3 So some people maybe stay up when they get home and then sleep six 4 hours before -- you know, however.

5 Q. I see.

6

A. Like, you -- like everybody's different.

Q. So when you sleep a couple hours then are up and then 8 sleep another couple hours is that for a dayshift or a nightshift?

9 A. Nightshift.

10 Q. Okay. So you do this during the day?

11 A. Yes.

12 Q. Now suppose you were working in the day. What kind of 13 sleep pattern would you get at night?

A. Basically, probably about, you know, the same amount as I get during the nightshift. Probably, you know, go to bed at 16 10:00 or so and wake up at 5:00.

Q. So it would not be interrupted like it (indiscernible)? A. No. But dayshift -- but I learned, well, that works for me so that's why I do it. Like, it's, you know, like for shift work you find what works for you and that works really good for me and I get -- you know, I have no problems at night because of the way I do it.

Q. Okay. Would it be possible also that somebody would find the job sufficiently stressful that it would interfere with their sleep?

1

2

A. Yes.

Q. Have you heard of that happening?

3 Α. Well, I heard people -- like especially, you know, like 4 a lot of new people saying, you know, it's stressful working there. But a lot of the reason I think it's stressful because 5 6 they're new and they -- you know, like the longer being there the 7 less stress you have because the more you know the -- like things -- you've seen it before so it's not like, gees, what am I 8 9 supposed to do now? Like, you know what, you know -- so. 10 Q. Um-hum. So I think the newer you are the more stress you would 11 Α. 12 have on that job, yes. Okay. And did you find that yourself when you first 13 Ο. 14 started as a controller that it was stressful? 15 Α. No because I also -- I worked PLM. So when I went to 16 PLM I went to Kerrobert station and it's a small station, so --17 and basically I, I -- you know, like you kind of know, like the 18 feel -- like you know what's happening around there, you know --19 so like you kind of got brought into it pretty easily, so that's why I -- I would say I wasn't very stressed because I did -- not 20 21 like I'm getting -- you know, brand new, don't know anything about 22 the industry and got brought in.

Q. I see. But for someone who is brand new, it's the first time they're working in a pipeline operation, in your experience how long do you think it would take somebody to be sufficiently

1 experienced that they wouldn't find the job stressful?

2 Α. You know, I would say everybody's a little different. 3 There's some people there that are really good operators, really 4 quick to me. The next person seems, you know, like two to three 5 years before I think, gees, you know, they -- you know, at the 6 beginning I think, gees they are not very good and then all of a 7 sudden the more they work there the more I notice how much better they get and how much more, you know, confidence they have and --8 9 like I see that lots like how -- the longer they've been there how 10 much -- you know, how they've grown as an operator.

Q. Now suppose you encountered somebody who'd been there four years and still found it sufficiently stressful that they were having trouble sleeping what would you say about them? A. Yeah, I think he's probably having a little trouble then, you know, like it's -- it might not be a job for him. DR. STRAUCH: Okay. All right, that's it gentlemen.

17 BY MS. BUTLER:

Q. I've got a few for you. When you mentioned previously about maybe the culture was a little better than it used to be regarding having the line down for a period of time, you mentioned somebody said call the field and find out, but you know that the field's going to call you when they're ready because they know you need that call. The person that would be saying things to you like call the field would that be a shift lead or --

25 A. Shift lead.

- 1
- Q. Is it ever a scheduler?

2 A. No. Usually the shift leads they're -- but --

3 Q. Do you think that saying no to a shift lead is easy?
4 From your experience?

5 A. No it would not be easy.

Q. And was there anything that you're aware of that the control room was part of like reviewing on a monthly basis, like reviewing the number down time hours per console or per line or were they sharing reports with the controllers of any specific type?

11

A. Not that I know of.

Q. Okay. And since you've been there quite a while and had the opportunity to observe do you have any opinions on what you think the most difficult consoles are to work on?

A. You know, I only work the two so I couldn't really say. Q. Okay. What do you think the biggest thing a terminal can -- terminal operator can do is to make life difficult on a pipeline operator?

A. I'm not sure on that question. Like, I -- I don't know if -- I'm not sure because I -- I think everybody there works together really good and we help each other out a lot, so I don't know if anybody would do anything that, you know, that I'm aware of.

24 Q. Well, maybe I should --

25 A. That I'm aware of.

Q. Let me ask the question differently. I didn't mean to
 imply that they would to it intentionally.

3 A. Yes.

Q. But that something if they missed it or if they overlooked it can make it more difficult for the pipeline operator to run a portion of their pipeline.

7 I quess the only thing is it'd be pretty hard if, like, Α. I guess your two-hourly report (indiscernible) if you keep making 8 9 mistakes doing that you could -- you know, that would create them a problem because if you don't -- you know, and to me like as a 10 terminal operator you can -- you should be able to check like when 11 12 -- you know, before when I send out every two hours I'll check 13 before. So most any things I do wrong I can correct before them 14 even noticing.

15 Q. Okay.

So, you know, if a terminal operator keeps making 16 Α. 17 mistakes like that, well, then they're thinking okay, you know, 18 like okay you've just made another mistake, you know, so that 19 would delay their two -- you know, their two-hourly checks to be quicker, right. And that could be, you know, another, you know, 20 21 10, 15 20, half an hour later before you could catch something. So that would -- I think would make like their -- a little more 2.2 23 difficult.

Q. Okay. And there's -- this kind of goes together, but is there anything that you're aware of that would be considered a

systemic problem or a known problem with the control system itself that would have been active at the time of Marshall?

3 A. No.

4 Ο. Okay. So -- because we ruled that out here. There were 5 so many people involved in this release -- I mean you look at the 6 sheer numbers of people that reviewed records on different shifts. Other than the fact that they were -- many of them were 7 inexperienced, is there any other key element that you think could 8 9 have had a contributing factor? 10 Not that I, that I know of. Α. 11 MS. BUTLER: Okay. Thank you. 12 BY MR. EMEABA: 13

Q. Yes, I (indiscernible) but I do have a few questions.What kind of errors could terminal operators run into?

15 A. What kind of errors that I can --

16 Q. Yeah, operation errors.

17 A. Operation errors that I could run into?

18 Q. Yes.

A. Operation errors like turning into the wrong, you know, wrong -- putting product in the wrong tank and stuff like that you mean? Or like errors like leaks wise? I'm not sure.

Q. Okay. I just want to have a general view of terminal errors you could run into. And have you had such kind of errors? A. No.

25 Q. You never have?

- 1
- A. No. Not -- like, no I've -- no.

Q. All right. Do you know any kind of operating -operation error that could impact the pipeline operator? From
your (indiscernible)?

Oh, I could -- I guess I could close the wrong valve. 5 Α. Ι 6 could, you know, like basically close the wrong valve and pressure 7 out the line basically, like (indiscernible). You know, like basically, you know, for me you're swinging valves so you open one 8 9 valve, you want to see flow, you want to see some pressure drop before you close another one. So if I don't see that I don't want 10 to close off because if I close off well then I'm -- and if that 11 other valve's not open, you know, that I know that it's going to 12 13 be open well then I could, could cause the pipeline -- you know, 14 overpressure on the pipeline.

15 Q. Okay. So that could happen during shutdown, is that 16 what you're saying?

17 Α. Not really because -- like usually on the shutdown, like 18 the pipe main line would say they're down and then like you 19 wouldn't -- you wouldn't never normally close off till you would get confirmed that my line -- your line is down. And then how 20 21 they -- you know, on my end if you tell me the line is down I'll, 22 you know, usually put up my holding. I'll make sure that my 23 holding kind of stays at a certain thing and then once it starts 24 dropping knowing that okay I can tell that the line's down and 25 then I'll close off. So usually no because most of the time you

1 would never close off till you get confirmation that the line is 2 closed.

3 Q. Okay.

4 A. It's down.

5 Q. I know that during startups the line operator calls the 6 terminal operator?

7 A. Yeah.

8 Q. And seek for forms to be opened? They ask for forms to 9 be started for them, correct?

10 A. Okay. Yep. On the one end, yes.

On startup. So that is where (indiscernible) would ask 11 Q. 12 him (indiscernible). So during shutdown, at what time do the 13 pipeline operator call on the terminal operator to do anything? 14 Well, once he's down, once he's all the way down -- like Α. 15 for -- on my end like on 6B where Griffith would be he would say okay turn off your pumps because we're going down. So I'd hit my 16 17 -- I would stop my pumps, he would stop his main line pump, and 18 then he would go down. On the other end you would wait till you 19 get confirmed that okay we're down you can close off.

Q. So what will you do as a terminal operator if he asks you to shut down that could be an error that will affect his shutting down?

A. There's not much that you could do. Like the only thing you could do, like he would turn off his pumps and if my boosters they're still going it would pressure up by the suction pressure,

1 but it -- you know, the booster pumps I would say probably would fall off after a bit because if he pushed -- you know, dead 2 heading then. But, you know, that's the only thing you could do I 3 4 quess if he turned off his main line unit that you wouldn't turn 5 off your booster pumps. 6 Ο. Come again with that? If he does --7 Well, like when he's shutting down his -- he's got his Α. main line unit running, so when he shuts down I got to turn off my 8 9 booster pumps. Those are the pumps that push -- gives them that 10 -- you know. Right. 11 Q. 12 Α. So the only thing I could do wrong is not turn off those 13 pumps. 14 All right. So if you fail to turn off your booster pump Q. 15 it's going to affect him? 16 Α. Yes. 17 Ο. Affect the line? 18 Α. Yes.

19 Q. Which is pressurizing it?

20 A. Yeah.

21 MR. EMEABA: Thank you so much.

22 BY MR. JOHNSON:

Q. In that situation he would see that though, would he not?

25 A. Yes. Yes.

1

Q. And would the local PLC take those down?

2 The local -- no, but it would -- chances are, you know, Α. 3 obviously the pumps would fall off eventually. Like I don't know 4 how long, but they would run for a bit. But obviously you're 5 pumping and dead heading, so obviously the pumps are sitting there 6 spinning and they would fall off. When they'd fall off I don't 7 know. I never came into that situation because it just -- you know, it just -- that's your job, so -- and he's -- but you're --8 9 they're always coordinating with you to either start your pumps or 10 turn off your pumps, so. 11 MR. NICHOLSON: Are you finished, Jay? 12 MR. JOHNSON: Yes. 13 MR. NICHOLSON: Barry? 14 UNIDENTIFIED SPEAKER: Okay. 15 DR. STRAUCH: There's nothing else. 16 BY MR. NICHOLSON: 17 Just a couple (indiscernible) I apologize. Keith Carter Q. 18 or Dave Matisse would have covered for you on July 26th? 19 Α. Yeah. How much experience would either one of those or both of 20 Q. 21 them have? They have I think -- I'm not sure. Keith Carter I know 2.2 Α. 23 would have a quite bit of experience. He's probably a 25-year 24 man. 25 Keith? Q.

1 A. Carter, yeah.

2 Q. Okay.

A. Dave, I'm not sure. Five years maybe? I'm not -- I, I -- I'm not sure if he'd be -- less than 10 because obviously I've been here 10, 11 years so he got hired in -- you know, once I'd been up here, so I'm not sure. I think it's five, six years maybe.

Q. Okay. Now, when you working in the PLM shop back -- and 9 this goes back a ways. '79 I think it was when you started?

10 A. Started, yeah.

11 Q. How often would you be called out to look at a line for 12 a leak? Would you ever?

13 A. Yes.

14 Q. How'd that work -- well, how'd the process work? Who 15 would call you?

A. Well, if it's -- you'd probably get a call from -- I'm not sure -- like I -- like if I was on -- let's say if we were out -- let's say, well the working hours you'd get -- calls would come in from the foreman. But during working hours the foreman would tell us okay that there's a possible leak somewhere.

Q. And where would he get -- where would the foreman get the information?

23 A. Probably from the control center.

24 Q. Directly?

25 A. I assume, yeah.

1 So it wouldn't go through a regional manager? Q. 2 Well, that could be. Like I say, I'm not -- I would get Α. 3 my information from him. How he would you would have to ask them. I would not know. All I know is --4 5 But it did happen fairly often? Ο. 6 Α. Yes. 7 Okay. Not, well --Q. 8 But, it would -- we definitely got called out, yes. Α. 9 Q. You've gone out? 10 Α. Yes. Yes. Okay. And that would be to walk the right-of-way and 11 Q. 12 not just the pump station? 13 Α. Yes. 14 Ο. Okay. 15 Α. To check where -- like if it was in a certain, you know, 16 like obviously, you know, like sometimes they'd have a location, 17 so, yeah, we'd go. 18 You also mentioned -- 2001 you said the control center 0. 19 moved up to Edmonton? Yeah, I think that's when they amalgamated the --20 Α. 21 Q. Okay. -- kind of all these --2.2 Α. 23 And I think that was already discussed earlier? Q. 24 Α. Yeah. So then prior to 2001 it was regional or how was it 25 Q.

1 controlled?

2 Well, the -- like the terminals were controlled at --Α. 3 like Kerrobert terminal was controlled at Kerrobert. 4 Ο. Okay. Griffith terminal was at Griffith. 5 Α. 6 Q. And the pipelines then? 7 The pipe -- there is pipelines up in Edmonton that Α. 8 were --9 Q. Okay. 10 Certain pipelines are run from Edmonton. Α. 11 Q. Okay. 12 MR. NICHOLSON: All right. That's all I've got. Anything else? Okay. I appreciate it. I guess with that we will 13 14 end the interview of Keith Miller, so thank you, Keith. We appreciate it. 15 16 (Whereupon, the interview was concluded.) 17 18 19 20 21 2.2 23 24 25

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ENBRIDGE - LINE 6B RUPTURE IN MARSHALL, MICHIGAN Interview of Keith Miller

DOCKET NUMBER: DCA-10-MP-007

PLACE: Edmonton, Alberta, Canada

DATE: January 31, 2012

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.

> Anne VanDereedt Transcriber