

ENBRIDGE PIPELINES INC.

INTERVIEW

OF

RICHARD FOLKEMA

Tyler W. Tollefson, Esq. Senior Legal Counsel for
Enbridge Pipelines Inc.

Curt Goeson Supervisor - Control Centre
Operations for Enbridge
Pipelines Inc.

Stephen M. Jenner, Ph.D. For National Transportation
Safety Board

Rick Gulstad, PE
and Karen Butler For U.S. Department of
Transportation Pipeline and
Hazardous Materials Safety
Administration

Carissa L. Stabblar, CSR(A) Court Reporter

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TABLE OF CONTENTS

INTRODUCTIONS	3
QUESTIONS BY MR. JENNER	3
QUESTIONS BY MS. BUTLER	17
QUESTIONS BY MR. GULSTAD	31
QUESTIONS BY MR. JENNER	33
QUESTIONS BY MS. BUTLER	36
CLOSING BY MR. JENNER	36
CERTIFICATE	38

1 INTERVIEW OF RICHARD FOLKEMA, TAKEN AT 10:47 A.M.:

2 MR. JENNER: Good morning. Today is

3 Friday, July 30th, 2010. My name is Stephen

4 Jenner, and I'm an investigator with the National

5 Transportation Safety Board in Washington, D.C. We

6 are currently in Edmonton, Canada at the Crowne

7 Plaza Hotel. We're here in regards to a pipeline

8 spill near Marshall, Michigan that occurred on July

9 26, 2010.

10 I'll go around the room and have everyone

11 introduce themselves.

12 MR. GULSTAD: I'm Rick Gulstad. I'm an

13 engineer with Pipeline and Hazardous Material

14 Safety Administration, PHMSA, [REDACTED]

15 [REDACTED]

16 MR. TOLLEFSON: I'm Tyler Tollefson, senior

17 legal counsel with Enbridge Pipelines here in

18 Edmonton.

19 MR. GOESON: I'm Curt Goeson, control

20 centre supervisor with Enbridge Pipelines.

21 MR. FOLKEMA: I'm Richard Folkema, a control

22 centre engineer at Enbridge Pipelines.

23 MS. BUTLER: Karen Butler, PHMSA [REDACTED]

24 [REDACTED] regional

25 project manager.

26 MR. JENNER: Okay, thank you.

27 QUESTIONS BY MR. JENNER:

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1 Q MR. JENNER: Richard, just for the record,
2 can you spell your first and last name.

3 A Sure. It's Richard Folkema, R-I-C-H-A-R-D. Last
4 name, F-O-L-K-E-M-A.

5 Q Did I hear you state that you're a control
6 engineer?

7 A Control centre engineer.

8 Q Control centre engineer. And who are you employed
9 by?

10 A Enbridge Pipelines.

11 Q I'd love to hear a little about your background.

12 When did you come to Enbridge?

13 A Sure. I graduated in 2004 from mechanical
14 engineering here in Alberta, and I came to Enbridge
15 in January of 2006. I've been with the control
16 centre since the fall of 2008.

17 Q So coming up on two years?

18 A Yes.

19 Q How have things been for you?

20 A It's been -- it's been a learning experience.

21 Q Okay. Are there different levels of control centre

22 engineers, control engineer 1, 2, 3, A, B, C,

23 anything like that?

24 A There's a supervisory position within the group,

25 and there's no distinction other than that.

26 There's control centre engineers and a supervisor

27 for the team.

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1 Q Just in general, what are your daily duties?

2 A Sure. One aspect of our job is ensuring the
3 adequateness of the pressure protection system
4 which Enbridge uses. That's one aspect of our job
5 and managing change when that's needed.

6 A large part of our job is -- I would explain
7 it's a -- it's a scheduling function. So a large
8 part of what we do is managing planned and
9 unplanned maintenance on the Enbridge system and
10 being -- being able to look that over for the scope
11 of that work in an engineering aspect.

12 A large part of our job is also supporting
13 improvements, either noting -- either being
14 initiators of that change or being a resource in
15 working towards objectives that have already been
16 defined.

17 Q You're a busy guy.

18 Okay. What I'd like to do is discuss your

19 activities on -- during your shift on Monday.

20 A Yes.

21 Q Could you just start us off, what time you reported

22 for work on Monday.

23 A Sure. I had a -- I reported to work at about 9

24 o'clock or 8, 8:30, somewhere in that time frame,

25 and previously on the way to work, I had received a

26 call from the shift lead stating that there was a

27 suspected leak on 6B. And having noted that, it

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1 put some impetus on, you know, providing some
2 support to that.

3 Activities on that day once I got to work,
4 there was some ongoing discussions as I came in of
5 observations of where we were. And talking to
6 those there, I -- the first objective when I came
7 to work would be to look at how we could support
8 this and in helping to determine if there was a
9 leak or not.

10 Q Let me backtrack a little. When was the first time
11 that you were contacted in regards to line 6B in
12 the last -- I'm sorry. Let me rephrase that. Is
13 this the first time that you were contacted in
14 regards to line 6B operations in the last day or
15 two?

16 A Yes. On my way to work, like, physically on the
17 train, I received a phone call saying that there

18 was a -- there was a potential leak and...

19 Q Had you worked the day before?

20 A The day before was Sunday, so, no, I did not work

21 the day before. Typically our hours here are more

22 conducive to, you know, Monday to Friday type of

23 arrangement. Being in this role, there is support

24 after hours, and there's a management system for

25 that.

26 Q On Sunday, I'm not sure where they -- the line had

27 been scheduled shutdown, and then they were

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1 planning times to start it up again. You weren't
2 contacted regarding those operations?

3 A No.

4 Q So Monday on your way to work is the first time you
5 were contacted about line 6B?

6 A Yes.

7 Q Okay. And if you can just -- you use the term
8 about possibility of a leak?

9 A Yes.

10 Q And who -- I'm sorry. Who did you speak to?

11 A That would have been the shift lead.

12 Q I know there are two. Which --

13 A Oh, I believe it was Brad.

14 Q This phone call, what time did you receive the
15 phone call?

16 A It was on my way to work. I believe I came to work
17 slightly before 9 o'clock, and so it would have

18 been around 9 -- or 8:30 or so placing it from

19 where I would have been on the train.

20 Q Around 8:30 local time?

21 A Yes.

22 Q Okay. And the best you can, I know you just

23 summarized in as much detail, but how Brad

24 approached the situation to you.

25 A I believe it was -- there was a -- there was a

26 suspected leak or column separation. They were

27 looking at any feedback that I could provide in

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1 helping them judge that, and it was a fairly brief
2 statement and just knowledge that it would be
3 appreciated if I could give any support that I
4 could.

5 Q Okay. Were you able to give any support while you
6 were on the train going to work?

7 A No. I think once we got to work and my main
8 objective was to start looking at some of the
9 historical data to see if I, you know, could shed
10 some light on the -- on the subject. And in the
11 process of gathering historical information and
12 having a look, it was during that process that it
13 was confirmed that there was a leak, that the
14 field, the region as we call it, confirmed that
15 there was a leak on the system.

16 Q Now, was -- did you see your responsibility as
17 being including determining if the problem is

18 related to a leak versus related to a column
19 separation? Is that why you were called upon?
20 A I think in this context, you know, you're there to
21 support the control centre in any situation that
22 comes up. So regardless of what the situation,
23 this included, if you're able to provide some input
24 and some judgment, then that's what we're going to
25 do. It's -- the job definition is not as rigid or
26 it's -- it's more open to interpretation than you
27 support the control centre as best of your

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1 abilities.

2 Q So you are capable of determining from the data

3 that you look, the historical data and whatever

4 numbers you're looking at, or are you able to

5 determine if it's a leak versus a column

6 separation?

7 A I would provide my best judgment. It's -- it's not

8 something I have done frequently before, but it's

9 something I would at least provide my opinion on to

10 provide any input that I could.

11 Q So you arrived and I guess you hit the ground

12 running. Did you start immediately looking into

13 this?

14 A Yes, it seemed like it was a very high priority

15 thing, so I started -- started to look at

16 historical information and build some charts using

17 the historicals that we have. And it was within

18 that process of the building and compiling of
19 information to provide some judgment that it was
20 confirmed that there was a leak.

21 Q Now, if you would, what type of historical data are
22 you looking at?

23 A I'd be looking at PI.

24 Q At PI?

25 A We have a PI historical database.

26 Q If you could help me out with that.

27 A Sure. PI is a software system used commonly in

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1 process industries and in pipeline. It -- a great
2 feature of it is it provides historical information
3 of events that happen.

4 So it's a package software system, and there's
5 a lot of historical information that Enbridge
6 stores on the historian on it that can help you
7 review, you know, past events and see the
8 operational data that was recorded.

9 Q So can you -- you pull from the data that was
10 available on line 6B. Are you pulling from SCADA
11 data?

12 A Essentially, yes.

13 Q Is there any particular data -- is there any data
14 in particular that you're focusing on, pressures,
15 pumps, suction?

16 A Having -- I guess in this case, just to understand
17 what's going on, just focusing on station pressure

18 and flow rates and seeing -- seeing if you could
19 build some information to help make any
20 observations that would support -- provide any
21 contacts to -- to the situation.

22 Q Did you get a chance to run the PI software?

23 A It -- I spent the majority of time just finding --
24 building the actual -- most of my time was spent
25 just building the charts in order to have a look
26 and thinking of what I would want to look at if
27 this was the situation, and I really didn't come to

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1 any reviewable set of data before it was confirmed
2 that there is a leak on the system.

3 Q Okay. So you were in the process of doing that --

4 A Yes.

5 Q -- when you got word that -- you got confirmation
6 that there was a leak. And what was that
7 confirmation?

8 A I believe -- I don't recall to be perfectly honest.

9 Q Did someone come to you and say, "We think we have
10 a leak that" --

11 A I think -- I think the shift lead sent out an
12 update saying that the region had confirmed that --
13 and by an update, I mean an e-mail based on the
14 incident saying that there was a confirmed leak.

15 Q Okay. So at that point, are you -- are you done
16 trying to build your models?

17 A I guess at that point, I still continued to look at

18 data that day to just make any observations. Like,
19 the context wasn't more trying to determine if
20 there could have been a leak. The effort was to
21 look at information to see if there's any
22 observations I can bring forward that might help
23 support, you know, the actions that are being taken
24 due to the leak.

25 Q Are you called upon to help determine the time of
26 the leak, when it had first occurred?

27 A I -- I was in the process of looking for that

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1 information, yes.

2 Q Were you able to complete that information?

3 A Yes. I think in -- in my thoughts, it was the --

4 on the initial shutdown the night before, which the

5 exact moment in time -- sorry, I'm trying to

6 remember. I didn't have that figure written down.

7 I'm believing it was 1458 MST is when I suggested

8 that the leak could have occurred. But I'd like to

9 verify that.

10 Q Fair enough.

11 A Okay.

12 Q And this would be on Sunday?

13 A Yes.

14 Q The day before?

15 A Yeah.

16 Q Okay.

17 A And that was just based off of -- it seemed like

18 there was a pretty large change in the pressure

19 profile in the pipeline at that time.

20 Q What stood out?

21 A Pardon?

22 Q What stood out in the large change in profile?

23 What was significant about that time?

24 A What is significant is there was a large change

25 that I couldn't -- that fit best to me with the

26 event occurring at that time.

27 Q Okay. Is that a large change in pressure?

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1 A Yes, pressure.

2 Q Okay. Had you seen similar -- in your analyses for
3 other things in your experience, have you seen any
4 of this type of large change in pressures before?

5 A Exactly like that? I would say it did stand out.

6 Q This one did seem unique?

7 A And that's -- at least it seemed like something
8 that needed to be explained, and that's why -- just
9 based on the balance of events, that's when I
10 suggested that that could have been the time when
11 the leak occurred.

12 Q Okay. Okay. So what other activities did you do
13 or were you asked to perform --

14 A Sure.

15 Q -- as things were unfolding?

16 A Sure. I guess a part of what my focus would be is
17 to provide information to groups. So during the

18 course of events, I'm kind of the main CCO contact
19 for both the pipeline integrity and for -- and for
20 the facilities management group within Enbridge.
21 So working to, you know, provide information
22 requests to those groups based on historical
23 information as I interpreted it.
24 Other functions would be involvement in
25 looking at what might be required for repairing the
26 site in question. That's something that I will be
27 involved in and, you know, having a safe procedure

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1 to do that. Other functions include -- time was
2 spent just verifying information is available.

3 That was pretty much my ability to help the
4 situation on -- this week.

5 Q Are part of your duties include determining why a
6 leak may have occurred?

7 A I guess I'd probably be, you know, a person of
8 input if that discussion was -- was being made.

9 Nothing really stood out in my mind just looking at
10 the historical information.

11 Q In the future, it's possible you'll be called upon
12 for your expertise in this?

13 A It is possible, yes. That would seem to be a
14 service that we could provide on the CCO
15 engineering team.

16 Q Okay. Are there other activities that you were
17 involved in on this day in response to this?

18 A I guess looking at -- primarily those would be the

19 large functions that I'd be able to help with, yes.

20 Q Okay. Have you ever experienced anything like

21 this, a leak before?

22 A I have supported the team on some other leaks at

23 different points. Nothing -- nothing to this

24 magnitude.

25 Q Were you -- in those other situations, was it

26 similar to this where you started to use the PI

27 program to run your data and help analyze if a leak

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1 exists?

2 A I'm just recalling those -- those events. I

3 don't -- I don't recall my involvement in using PI

4 on those, but the severity of those leaks were a

5 lot less. So the focus on those was more

6 communicating the -- communicating the changes

7 needed as a company to accommodate the repair of

8 those sites and supporting the actual procedures

9 operationally to put that equipment back into

10 service once -- once that time was suitable.

11 Q Okay. Now, when you were running your -- you went

12 back and looked at this period around 1458?

13 A Sure.

14 Q And in your mind, this is one area that could be

15 the start of the leak. Is there any reason for you

16 to conclude that versus a column separation?

17 A You know, I -- I don't think I could have -- can

18 you articulate the question a little bit more

19 actually?

20 Q Right. Some of the people we talked to before are

21 addressing this issue as a column separation. Are

22 you familiar with that term?

23 A Sure. I guess -- and that's what my involvement

24 was is, you know, they're unsure if there was -- if

25 there was any indication if it could have been a

26 column leak or something else.

27 Q Right.

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1 A And to the best of my abilities, my involvement in
2 PI was to, you know, shed any observations that I'm
3 able to make. It's probably something I haven't
4 done to that extent before, and I would probably be
5 unable to -- I guess that would be my answer to
6 that question.

7 Q Okay. I'll rephrase it a little different.

8 A Sure.

9 Q You're looking at some data that you suggest a
10 potential leak?

11 A Okay.

12 Q And other people, based on whatever data was
13 available to them, are looking at this as a column
14 separation.

15 A Yes.

16 Q So I'm trying to understand why some people go in
17 one direction for a column separation, and you went

18 in the direction of a potential leak.

19 A I guess -- I guess it could have been explained

20 as -- you know, you could have observed that as a

21 column separation as well just on the balance of

22 factors up to that point. I -- you know, I put it

23 forward as something for consideration that there

24 was a large pressure drop here that -- that, you

25 know, could have been indicative of both, but it's

26 something we should consider of this is a time when

27 the event could have occurred.

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1 Q Okay.

2 A I'm not -- yeah, I guess I'm not -- I'm not an
3 expert in that. You just do your best and provide
4 what observations you can.

5 Q I'm interested -- it interests me why the
6 possibility of a leak --

7 A Sure.

8 Q -- seemed more a stronger possibility in your
9 mind -- at least that's what I'm reading -- than it
10 is for others.

11 A I guess -- I guess that's a time that I'm -- I'm
12 sorry. I'm not articulating this well. Just, I
13 guess, in my head that's a time when it could have
14 occurred. Just there's a large drop in pressure
15 there. And based on the information available,
16 it's something -- it's something that needs to be
17 explained.

18 Q Great. Thank you.

19 A Yeah.

20 Q That's the questions I have for this time, and I'm

21 sure other people have questions, and we'll just go

22 around the room.

23 A Sure.

24 MR. JENNER: Karen, do you have some

25 questions?

26 MS. BUTLER: I do.

27 QUESTIONS BY MS. BUTLER:

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1 Q MS. BUTLER: When you saw this sharp
2 pressure drop, can you tell me the location?

3 A Sure. The -- right on Marshall discharge, we -- we
4 have, you know, discharge pressure transmitters,
5 and those are in close proximity to the leak site
6 as it was confirmed afterwards. And those -- those
7 were the transmitters that I was looking at the
8 discharge on Marshall station.

9 Q Okay. Is there also flow transmitters at that
10 location?

11 A There is not a flow metre in Marshall that I'm
12 aware of.

13 Q Is that -- would you have pulled flow data as well
14 for your tables?

15 A I guess in the process, I do believe I looked at
16 flow coming out of Griffith at the time, so I think
17 the nearest transmitter for flow was at Griffith.

18 And that's at the start of the pipeline.

19 Q All right. And when you do these types of things,

20 what tools do you use? I clearly understand that

21 you're using a PI Historian for retrieving the data

22 from, but what other tools are you using to analyze

23 the data?

24 A Basically any observations I tried to make were

25 from using PI Historian.

26 Q So, for example, would you take a pressure over

27 time and compare that to pressure currently at

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1 various stations for various flows? Would that be
2 the type of comparison you're doing?

3 A Just taking the data available and seeing how it
4 changed over time.

5 Q Okay. So data changes over time. What types of
6 data besides pressure trends would you be looking
7 at?

8 A The flow out of Griffith interested me. What else
9 was there? Those -- primarily any observations I
10 would have made, I would have been interested in
11 flow and pressure, so at stations along the line.

12 Q Do you have the capability of looking at any point
13 system, SCADA system?

14 A PI Historian, like most data points on the system,
15 are stored in the historian, and a lot of the
16 information that we have, it's stored in a PI
17 Historian.

18 Q Okay. And so if you wanted to know whether or not
19 they -- that particular pressure had gone into an
20 alarm state, would you be able to pull that as
21 well?

22 A What do you mean by a pressure going into an alarm
23 state?

24 Q Where there's an alarm indication on the console
25 that this is not normal.

26 A I think alarms -- I don't believe alarms -- I'm not
27 a world expert on PI, but I believe alarms are not

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1 stored in the PI Historian.

2 Q Okay. So that's not like something you would make
3 part of your analysis normally?

4 A That is not something PI, that I'm aware of, has
5 the ability to do.

6 Q Okay. So regarding calculations of flow or, like,
7 changes that may have happened in the product or if
8 there's been some corruption of the product, are
9 you looking at any other tools or just looking at
10 the data through PI?

11 A That's -- that's the primary tool that I have
12 access to.

13 Q Would you be doing any line-loss calculations?

14 A In -- in what -- in what regard?

15 Q Maybe looking at volume, that unexplained loss or
16 gain, trying to determine if there's something that
17 was needed for pack or if there was something that

18 was needed for, say, horsepower requirement, more
19 energy to move the product, that type of thing.
20 A I guess our -- like, there -- there needs to be a
21 procedure for our return to service here, and some
22 of those aspects would fall -- fall within
23 information that needed -- would need to be
24 conveyed in their return to service document.

25 But the primary modelling tool for Enbridge is
26 managed by another group, and their -- and their
27 sole -- their sole purpose really is to -- is to

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1 run that software.

2 Q Do you know what that modelling software is?

3 A It's an internal modelling software. I believe the

4 acronym for it is BSS.

5 Q Do you know if that internal modelling software is

6 at all related to the leak detection system?

7 A It -- it probably wouldn't have any connectivity to

8 that.

9 Q So since you helped coordinate maintenance

10 activities with the controller, if I understood

11 correctly --

12 A Yes.

13 Q -- if there's something that's going on

14 maintenance, they were replacing some pipe and that

15 could -- through a different diameter, and that

16 could impact both the modelling software and the

17 leak detection software, are you responsible for

18 communicating that, or is someone else responsible

19 for communicating that, or how does that work?

20 A Can you -- I'm sorry. I kind of didn't quite catch

21 what you were getting at there.

22 Q Okay. I think you're responsible for helping

23 coordinate maintenance activities?

24 A Yes.

25 Q I assume that you're helping it coordinate from the

26 impact that it might have on the control room;

27 correct?

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1 A Yes, operability and capacity.

2 Q Okay. So sometimes we do maintenance activities on
3 the pipeline that can actually impact capacity?

4 A Yes.

5 Q You know, it could be a pressure restriction that's
6 imposed because of something found in integrity
7 management?

8 A Yes.

9 Q Or sometimes we're doing things. Like, we need to
10 relocate some pipes, and while we're relocating it,
11 we're going to increase the size in that particular
12 area, or we're going to change the wall thickness
13 of what's there. And as a result of that, that
14 could impact modelling software that's looking at
15 pressure profiles or trying to explain volume that
16 could also impact --

17 A Yes.

18 Q -- leak detection equipment, right, or calculation?

19 A Yes.

20 Q So from your perspective, since those are, like,

21 handled in different models and with what you do,

22 what role do you have to help keep that the same?

23 Maybe you actually had no role. That's up to --

24 A I do -- I do have a role in keeping that in sync.

25 Q Okay. How do we do that?

26 A If -- if there's a lot of maintenance, it has more

27 to do with integrity management of the pipeline

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1 itself. In that regards, there's a process by --
2 by which, you know, the changes to, you know, the
3 allowable pressures of what the system operate kind
4 of a flow-through through the control centre, and
5 in that process, the hydraulic modelling tools that
6 we talked about earlier are kind of kept up to
7 date.

8 So we kind of manage that process of change
9 from the initial imposition of that all the way to
10 ensuring that changes were managed and that any
11 changes in operability are managed as well.

12 Q I heard "operability," but I never heard anything
13 associated with the leak detection.

14 A Sure. So I guess that was a comment more on
15 integrity management. That's a pretty large
16 portion of the work that you would describe.

17 Q Right, but if there was a -- if there was a

18 pressure restriction, would that also get passed to
19 the leak detection equipment?

20 A Any -- any -- the -- the -- you know, basically the
21 boundary conditions for that leak detection
22 software is going to be kept in sync with the --
23 with the hydraulic modelling information that
24 basically sets the safe limits on the system.

25 So in working through that change and
26 documenting that change of basically operable
27 limits of how our stations run, that information

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1 would sync back to -- to the modelling group.

2 Q I thought that I -- if you know, I'm just going to
3 ask you for confirmation. If you don't, that's
4 fine too. The leak detection system that you guys
5 have, it is internally based also, isn't it? Like,
6 you developed it, or is it an external software
7 product?

8 A I believe it's a variant of the -- what's commonly
9 called is the stoner (ph) modelling systems. But
10 Enbridge does have a lot of expertise in managing
11 those systems, so I believe we have a -- we --
12 we -- we have quite a bit of control on how that
13 stuff is modelled.

14 Q Okay, thank you.

15 We've talked a little bit about alarms.

16 You've explained that you help coordinate
17 maintenance that's going on in the field. Was

18 there any planned maintenance going on for the

19 weekend that could have impacted 6B?

20 A There's an ongoing integrity management system for

21 line 6B. I -- those -- those shifts were likely

22 working through -- through to the weekend on the

23 sites where they had arranged for work. I'm -- I'm

24 not aware of any other maintenance on 6B that was

25 occurring in that time frame.

26 Q Okay, and when we're talking about that --

27 A Oh, oh, one thing that we would consider

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1 maintenance is is a tool run. There was an ongoing
2 tool run in the line.

3 Q Okay. And when we're talking about integrity
4 management through the weekend, we're talking about
5 exploratory digs or complication digs. Is that
6 what you meant?

7 A There -- there's an ongoing dig program on 6B, and
8 they were working at -- they were likely working or
9 had the authorization to work at several sites.

10 Q So talk to me a little bit about the dig program.

11 Is that the result of other pig runs, and they're
12 digging up sites to confirm --

13 A You'd have -- you'd be -- you'd have to speak to
14 someone in pipeline integrity to comment on that.

15 Q I understand that part, okay.

16 All right, and so we had a pig run, and we had
17 some integrity digs, but probably nothing other

18 than that was going on; is that fair?

19 A Yes.

20 Q Okay. Was there maintenance going on in the field

21 over the weekend on any of the other line segments

22 or lines that would be under that same console? If

23 I've got that right, it's 6A, B, what, 17?

24 MS. BUTLER: Help me out, Curt.

25 MR. GOESON: That's correct, line 3, 6A,

26 6B, and 17.

27 A I don't -- I don't recall. I know on line 17 there

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1 wasn't any work. I'd -- we'd have to verify for
2 the other ones. I don't have that information in
3 my head right now.

4 Q MS. BUTLER: Okay. All right, so since the
5 leak has happened, have you gone ahead and finished
6 your tables and your assessment of data?

7 A I guess -- I'm not, you know, a trained expert in
8 qualifications, and any observations I've made is,
9 you know, not something specific to my job
10 description, and I'm not working towards producing
11 a final report in any way.

12 Q Okay. Did you find any observations besides the
13 historical pressure -- or the historian pressure,
14 I'm sorry, at Marshall?

15 A One -- one function I did was I requested pressure
16 data from the field recorders and just did my best
17 to validate that information to the PI historicals,

18 and there seemed to be fairly good agreement with
19 what we were looking at.

20 And other information inquiries I've done have
21 related to requests or contextual kind of
22 information sets for how we were running prior to
23 shutdown, and I believe that relates to the action
24 order in which those -- that information has to be
25 determined.

26 Q Okay, gotcha. So did you help them determine a
27 pressure that may be a minimal requirement based on

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1 the corrective action order?

2 A I was involved in searching that data and the
3 groups involved, the facilities management and
4 pipeline integrity. I'm -- I'm the control centre
5 contact for their support of that process.

6 Q Okay. Did you have any involvement in the volume
7 calculations regarding the release amount?

8 A That -- that would more fall under the other --
9 other individuals.

10 Q Okay. When you mentioned that you helped support
11 changes that are needed kind of in that control
12 room --

13 A Sure.

14 Q -- are there -- are there any recent changes that
15 you've been asking for or wanted support with?

16 A That's -- can you be a little bit more specific?

17 Q Well, maybe it's because I don't know the types of

18 changes that you request, but I'm guessing from the
19 types of things you do you might request -- gosh,
20 you know, we're always doing maintenance on this
21 line segment, and we've been there four or five
22 times, and why don't we just try and change out,
23 you know, 2 miles of it instead of 50 joints -- or,
24 I'm sorry, instead of 50 feet, and as a result of
25 that, I'll put in a change request at the control
26 centre because it's on a specific line. Is that
27 types of changes, that type of thing something you

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1 run into?

2 A A lot of the changes that I've been involved in are

3 a lot simpler than that.

4 Q Okay, give me an example.

5 A Perhaps they might relate to, you know -- you know,

6 looking -- creating -- you know, say if there's a

7 line where you have a very big difference in

8 products, and you're having issues with downtime

9 due to pump seals failing, perhaps you would

10 initiate, you know, an investigation into what --

11 why those seals aren't performing as they -- you

12 know, as you would expect them to and kind of work

13 in conjunction with, you know, members of what we

14 would call the field or the region for, you know,

15 identifying problems and working to qualify them

16 and supporting them if needed.

17 And that's kind of a two-way thing. If they

18 have things that they see of how the system could
19 run better, then I'm -- I'm -- you know, sometimes
20 you lead, and sometimes you support. And that's --
21 and that's a more fluid aspect of my role.

22 Q Okay, well, thanks for that explanation.

23 So regarding types of changes, have you
24 requested anything or been involved in any review
25 or analysis of something associated with line 6B?

26 A I guess there is supporting an integrity management
27 system right now, so one -- one of the aspects of

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1 what we do is, you know, provide contextual impact
2 of -- through-put on the system for the
3 coordination of work there. So, you know, one of
4 the things that we would initiate is, you know,
5 looking to -- looking to manage that work in an
6 appropriate time.

7 So if work does require a shutdown to be safe,
8 then, you know, taking advantage of that and, you
9 know, having multiple crews working at different
10 sites, just trying to kind of balance the need for
11 through-put and for maintenance and being a steward
12 to that process. That's the thing that really
13 jumps out in my head of what my role has recently
14 been on 6B.

15 Q Do you recommend traditionally any instrumentation
16 changes or communication method changes?

17 A None that I recall.

18 Q Since you help with maintenance, are you involved
19 with actually tracking the pig run?

20 A Yes. I guess Enbridge is a company. You know, you
21 can kind of think of the CCO role as -- we kind of
22 summarized the overall and work towards creating a
23 plan for the overall maintenance for every kind of
24 internal or managed external impact, and we -- and
25 through the nominations process, line 6B is, you
26 know, a common carrier. There's a process of
27 fitting in and prioritizing the maintenance with

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1 what the through-put drivers are for a given month.

2 Q Okay. So do you know anything about where the pigs

3 were at the time of the leak?

4 A They were near Niles, I believe, upstream or

5 downstream.

6 Q Is that where they would be expected to be --

7 A Yes.

8 Q -- based on -- okay.

9 Have the pig runs, prior to this event, gone

10 according to plan as far as you know?

11 A I am not aware of any difficulties with the -- with

12 this pig run.

13 Q And then do you get involved at all with things

14 that are entered into FacMan or their maintenance

15 software, Maximo (ph)? Do you get involved in

16 either of those elements?

17 A I guess if -- the primary kind of user of that

18 information is the -- is kind of more region based,
19 but if -- in the context of something being
20 important, no, a lot of the times you're made
21 informed of something that is input in there, and
22 you take more direct action on supporting the
23 conclusion to, you know, fixing an identified
24 problem.

25 Q Okay. Would you put things into FacMan, or is that
26 pretty much not something you used --

27 A The main -- the main kind of philosophy is that

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1 it's all centered with the operator.

2 Q Okay. All right. I think that's all I had for

3 you. Thank you.

4 MR. JENNER: Okay, Rick?

5 MR. GULSTAD: I only have a couple

6 questions.

7 QUESTIONS BY MR. GULSTAD:

8 Q MR. GULSTAD: When you reviewed the data,

9 how far back did you go?

10 A It's primarily associated -- or primarily

11 interested in seeing what I could provide with the

12 incident itself. So, you know, in the context of,

13 you know, pretty much around the incident time

14 itself.

15 In the context of providing support for the

16 letter of action, I -- I historied some information

17 that was longer term, but it's primarily not within

18 my scope of defined responsibilities but just
19 trying to provide any input you can of what may
20 have occurred at that incident.

21 Q With either prior -- or just after your request for
22 the incident period or for the corrective action,
23 or did you see any occasions where pressure was
24 unusually high or overpressured or --

25 A Looking at the allowables and querying back in
26 support of the order, I did not see any events that
27 appear to not be within what would be acceptable.

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1 Q Nothing unusual at the discharge of Marshall, for
2 example?

3 A I guess no.

4 Q So I guess while you were reviewing the data, you
5 got notified that they had located the leak?

6 A Yes. I'm not an expert at PI to be perfectly
7 honest. It takes me a long time to build stuff, so
8 I really didn't even complete that process of
9 finding points and trying to build a graph and make
10 it -- make it work.

11 Q Yeah, that's my question. If you hadn't been
12 notified of a leak, what would you have carried on
13 to do and how would you have reported that back to
14 the shift lead then?

15 A I guess -- I guess I would have tried to think
16 about -- you know, really I -- I wasn't sure when I
17 was going about doing it. I was really interested

18 in trying to see what the pressure data looked like
19 and what the flow is to try and -- try and help
20 provide any observations that I could.
21 But I don't recall ever having had to, you
22 know, differentiate or provide expertise on a
23 column break of this manner before. So really I
24 was just trying to figure it out as I was going and
25 build some data and see if any -- if I could
26 rationalize any observations from what I saw in
27 there.

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1 Q And those might have included pressure trending
2 (INDISCERNIBLE)?

3 A Yes. Primarily -- like, I mentioned, you know,
4 just to try and understand what happened, I was
5 primarily interested in flow and pressure obviously
6 on the pipeline, so...

7 Q Okay.

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

9 MR. JENNER: Curt, do you have any
10 questions or points of clarification?

11 MR. GOESON: No.

12 MR. JENNER: We'll just go around briefly a
13 second time.

14 A Sure.

15 FURTHER QUESTIONS BY MR. JENNER:

16 Q MR. JENNER: If you would help me
17 understand when you went back in and identified

18 1458 as a moment of --

19 A That was the time of shutdown --

20 Q Right.

21 A -- the night before.

22 Q From the historical data that you're looking at,

23 are you also able to look at alarms associated

24 with --

25 A That's not in PI, so I did not query that

26 information.

27 Q Okay, then that clarifies that.

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1 A Okay.

2 Q I just have some standard questions not related to
3 operations.

4 A Sure.

5 Q What are your normal shift days that you work?

6 What days did you work up leading to this?

7 A My typical hours are probably about 7 o'clock to 5.

8 Q 7 a.m. --

9 A Till 5 p.m.

10 Q -- to 5 p.m.

11 And what were the few days that you had worked

12 before Monday?

13 A The weekend I had off.

14 Q And you worked -- for the previous Friday, you had

15 worked --

16 A Yeah, I worked all that week.

17 MR. GOESON: It's not a shift-work role.

18 MR. JENNER: Right.

19 MR. GOESON: Okay.

20 Q MR. JENNER: So 7 a.m. to 5 p.m. is

21 generally Monday to Friday?

22 A Some flexibility in that, but that's generally the

23 kind of base hours I try and support the team.

24 Q All right, thank you.

25 I have just questions about your health and

26 fitness --

27 A Sure.

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1 Q -- if that's okay. You look healthy. Are you
2 healthy on the inside?

3 A You're a good liar.

4 Q I'm sorry?

5 A You're a good liar. No, I could stand to spend
6 some time on the treadmill, but besides that, no
7 health concerns.

8 Q No long-term conditions, medical conditions?

9 A No. No.

10 Q Okay. Are you on any prescription or
11 nonprescription medications?

12 A No.

13 Q Okay. When you reported for work Monday, did
14 you -- how did you feel in terms of rest and
15 alertness?

16 A I'd had a good weekend, and I had felt rested.

17 Q Do you have any -- do you sleep well?

18 A Yes, I do.

19 Q Any sleep conditions that you've been diagnosed as,
20 snoring?

21 A No. I -- no medications, no diagnosis for many
22 years other than losing some weight.

23 Q You're not alone in that. I appreciate your
24 answering those questions.

25 MR. JENNER: That's all I have.

26 MS. BUTLER: Karen, do you have any
27 follow-up?

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1 FURTHER QUESTIONS BY MS. BUTLER:

2 Q MS. BUTLER: I do want to ask you one, and
3 that was when you were looking back over some of
4 the historical data or getting started, you found
5 this pike at Marshall. Did you happen to look at
6 the previous day on Saturday for anything?

7 A I think I was more -- more interested in the
8 incident itself and some of the -- kind of looking
9 at higher values that could have happened before.
10 Really -- not really looking at specific events,
11 more just the high values themselves and looking to
12 explain that that information was accurate or
13 processed data.

14 Q Okay. So nothing stood out to you on Saturday?

15 A I don't know if I specifically queried that
16 information to look at Saturday.

17 Q Okay.

18 MS. BUTLER: That's all I had.

19 A Okay.

20 MR. JENNER: Rick, any other questions?

21 MR. GULSTAD: No questions.

22 MR. JENNER: Curt, follow-up?

23 MR. GOESON: No.

24 CLOSING BY MR. JENNER:

25 MR. JENNER: Terrific. We're finishing up.

26 I want to thank you for helping us out and for

27 putting up with the inconvenience and things like

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1 that, but we do appreciate you being here and
2 helping us put together the pieces.

3 A Sure.

4 MR. JENNER: If -- you may have done some
5 reflection on the events around this. And do you
6 have any thoughts about any changes in terms of
7 procedures, rules, regulations, equipment that
8 could help us to prevent this type of incident from
9 happening again?

10 A None -- none that -- none that I'd bring forward
11 right now.

12 MR. JENNER: Okay, I appreciate that. If
13 you do, and we just encourage you to talk to people
14 and share your ideas.

15 A Sure.

16 MR. JENNER: We'd certainly welcome that.

17 A I'm sure -- I'm sure as a team we will be doing

18 that.

19 MR. JENNER: Terrific. Again, thank you,

20 and we'll conclude this interview.

21 -----

22 PROCEEDINGS CONCLUDED AT 11:45 A.M.

23 -----

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1 CERTIFICATE OF TRANSCRIPT

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5 I, the undersigned, hereby certify that the

6 foregoing pages are a true and faithful transcript

7 of the proceedings taken down by me in shorthand and

8 transcribed from my shorthand notes to the best of my

9 skill and ability.

10 Dated at the City of Edmonton, Province of

11 Alberta, this 11th day of August, 2010.

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18 C. L. Stabbler, CSR(A)

19 Court Reporter

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UNITED STATES OF AMERICA
NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

ENBRIDGE OIL SPILL,
MARSHALL, MICHIGAN

Docket No.: DCA-10-MP-007

* * * * *

Interview of: RICHARD FOLKEMA

Date: SEPT 1, 2010

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A handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to be the name of the undersigned.