UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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

Interview of: LES RESCHNY

Enbridge	Headquarters
Edmonton,	Canada
Thursday,	
December	16, 2010

The above-captioned matter convened, pursuant to notice.

BEFORE: MATTHEW NICHOLSON
Investigator-in-Charge

APPEARANCES:

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

[redacted]

RAVINDRA CHHATRE, Accident Investigator
National Transportation Safety Board
Office of Railroad, Pipeline, and
Hazardous Materials Investigations

[redacted]

KAREN BUTLER, Supervisor
A ons

[redacted]

JAY A. JOHNSON, Senior Compliance Specialist
Enbridge Energy Company, Inc.

[redacted]

JAMES JOHNSTON, Training Coordinator
Control Center Operations
Enbridge Pipelines

[redacted]

CURT GOESON

I N D E X

I N T E R V I E W

MR. NICHOLSON: I've just got a little something I'm going to read here, and then we'll be started.

Good afternoon. Today is Thursday, December 16th, 2010. My name is Matthew Nicholson. I'm an investigator with the National Transportation Safety Board in Washington, D.C. We're currently in Edmonton, Canada at the Enbridge Headquarters and are meeting in regards to a pipeline spill in Marshall, Michigan that occurred on July 25th, 2010. This is case number DCA-10-MP-007. Before we begin, I'd like you to please state your name and whether we have permission to record this interview.

MR. RESCHNY: My name is Les Reschny, and yes, you do have permission.

MR. NICHOLSON: Okay, also, if you'd like, you are permitted to have one other person present during these interviews. This is a person of your choice, supervisor, friend, family or nobody at all. Please confirm for the record whom you have chosen to be present during these interviews.

MR. RESCHNY: Curt Goeson.

MR. NICHOLSON: Okay. I guess at this point we'll go around the room and introduce ourselves for the record as well. I'll start with myself. When we get to you, please state your name, your title, organization you represent, spelling of your name, business e-mail or phone number. I'll start, and we'll go around to the left.

My name is Matthew Nicholson, M-a-t-t-h-e-w, N-i-c-h-o-l-s-o-n. I'm the IIC with NTSB on the Marshall, Michigan spill. My contact information is [redacted]

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

MR. JOHNSON: Jay Johnson, senior compliance specialist in the Pipeline Safety Compliance Group of Enbridge. It's [redacted] and that's J-a-y, J-o-h-n-s-o-n.

MR. RESCHNY: Les Reschny with SCADA operations or supervisor of SCADA operations. L-e-s, R-e-s-c-h-n-y. My e-mail contact information is l[redacted]

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

MS. BUTLER: Karen Butler, PHMSA [redacted] supervisor of accident investigations. Email address is [redacted]

INTERVIEW OF LES RESCHNY

BY MR. NICHOLSON:

Q. Okay. I think just to get started here, Les, and then we'll turn it over to Karen maybe for some of her questions before

we bring Curt back in. If you could maybe just, you know, go ahead and re-explain your title and what your function in the company, what is it you do?

A. Well, I've been with Enbridge since 2001. In 2008, I became the supervisor of SCADA operations. So, that role, the group is responsible for the SCADA production systems. We deal with a lot of the day to day stuff. There's two other SCADA groups or core SCADA groups. Both of those are projects, so one does development, and one does what we call integration projects. So, this is where they would build larger pipelines or larger expansion type projects. So, we work closely with them, but our area is kind of the group that inherits all the projects and supports the production day to day.

Q. I'm sorry, supports them how? Through?

A. We're responsible for everything that goes into production, so if there is a new project coming in, it comes through us. The smaller fixes we fix for the control center if there are any issues that they see.

Q. This would be software related?

A. Software related, yeah.

Q. Okay, but not instrumentation?

A. Correct, actually, I should clarify that. So, SCADA at Enbridge is from RTU to control center.

Q. Okay.

A. So, PLC, I believe you've got Bill Bock (ph.) and Rob

Kitchen on that list.

Q. Yes.

A. So, they're at the PLC level then and below. So yeah, SCADA is just from RTU to the control center. And then there's actually another group that looks after the network for us as well.

BY MR. CHHATRE:

Q. So, you have the group, the unit that takes care of PLC?

A. That's right. There's a Canadian side and a U.S. side. So, Bill Bock is the supervisor that looks after the PLCs in the U.S., and Bruce Miller is the supervisor that looks after PLCs in Canada.

Q. And their function would be what, just installation of different valves and making sure --

A. The PLC programming and connecting it to the instrument.

BY MR. NICHOLSON:

Q. So, who sets alarms? Who's responsible for setting alarms?

A. The control center alarms would be done by us.

Q. Okay, you actually select the values?

A. Well, it's a group effort, right. I mean, the control center -- it's actually the control center that determines with us what alarm should be displayed.

Q. And what alarms will be put on in general?

A. That's right.

MR. PIERZINA: Should we move over now?

MR. NICHOLSON: I'm moving over, Karen, so you can hear. I don't know if Karen can hear.

MS. BUTLER: Good.

MR. PIERZINA: And with Ravi --

MR. CHHATRE: I'm good here. I can hear you.

MR. PIERZINA: Okay. Maybe what you could -- because I'm guessing you're going to be on some of the screens. We'll put that recorder right there.

MR. NICHOLSON: Karen, did you have questions you wanted to pose to Les here without Curt being in the room?

MS. BUTLER: Sure -- oh, without Curt being in the room?

MR. NICHOLSON: Yes.

MR. JOHNSON: Well, maybe just a quick clarification. Curt is not your supervisor, is he?

MR. RESCHNY: No.

MS. BUTLER: Is Curt actually over him?

MR. PIERZINA: Yeah, Curt is not his supervisor.

MS. BUTLER: No, I don’t care at all.

MR. NICHOLSON: Okay, I didn't know if we were going that direction or not.

MS. BUTLER: No, it's fine if Curt is in there, because he's not his supervisor.

MR. NICHOLSON: Okay, do you want to bring Curt in? Or if you don't want him, --

MR. RESCHNY: It doesn't -- we can continue on. It doesn't really matter.

MR. NICHOLSON: Okay. I'm sorry. So, we were talking a little bit about alarms and --

MS. BUTLER: Yeah, I caught -- the last thing I caught was that I think you said their group does determine the alarms and whether or not there are actually alarms there for whatever is requested.

MR. RESCHNY: Yeah, it's a coordinated effort with -- I mean, you've got control center, us. Field staff may have a say. So, it's kind of by a committee almost.

BY MR. NICHOLSON:

Q. So, you actually have formal meetings where you sit down?

A. That's right.

Q. So, if there's a new pump station, you'll talk about equipment?

A. Right, so that'll be -- yeah, so there'll be a long list, and then that will go to the control center.

Q. Okay.

A. And they go through it. And based on the rules, we'll say, you know, these are alarms or not.

Q. Okay, do you select instrumentation?

A. We don't, no.

Q. Who's doing that?

A. It's under that -- I mean, a lot of it is under the engineering standards.

Q. Okay, so they're all going to look to -- all pump stations are laid out pretty much the same?

A. Pretty much the same, yeah.

Q. Do you have any input as to where instrumentation might be placed if you have preference?

A. We haven't been, no.

MR. CHHATRE: When you say field people, what does that mean? You said we have input and the field people, the control center, and your group as a group effort of setting up alarms. And so, what do you mean by field people? Who are field people?

MR. RESCHNY: The maintenance staff.

MR. CHHATRE: Maintenance people?

MR. RESCHNY: Yeah, so they may say they need an alarm, so that becomes a discussion point of, you know, why does it need to be in the control center.

BY MR. NICHOLSON:

Q. The LPM system is that something you manage or oversee?

A. Yeah.

Q. Can you talk a little bit about that, what its intent is?

A. It's basically to monitor pressures.

Q. Over pressures? Under pressures? Both?

A. Over -- yeah, over and under pressure. I mean, it will

look at low suctions and over pressures and turn off pumps if they are exceeding in pressure.

Q. Oh, so the LPM system will shut off pumps?

A. Yeah.

Q. Even on a low pressure?

MS. BUTLER: Was that a yes?

MR. NICHOLSON: He's thinking.

MR. RESCHNY: I'm thinking.

MS. BUTLER: Okay.

MR. RESCHNY: I'd have to check to be sure, actually.

MR. CHHATRE: Can you tell what LPM stands for, the long form?

MR. RESCHNY: Line pressure monitor.

MR. CHHATRE: Okay.

BY MR. NICHOLSON:

Q. Okay, are you involved in setting up priorities on alarms?

A. Again, that's as a group.

Q. As a group, okay.

MR. NICHOLSON: Go ahead.

MR. CHHATRE: Who makes the final decision? Somebody's got to be the leader.

MR. RESCHNY: The control center is.

MR. NICHOLSON: Meaning who, Ian?

MR. PIERZINA: So, when you say set the alarms, you

don't set the -- you set them in the program when you're told by the end users? Are you involved with the actual determination of where alarms should be set?

MR. CHHATRE: That's what I meant, the value of --

MR. RESCHNY: Like to set priority you mean or the limits?

MR. CHHATRE: No, like all pressures more then 5 PSI the alarm will go off, the limits.

MR. RESCHNY: Oh no, sorry. So, that would be CCO Engineering would set the limits on the pressures.

BY MR. NICHOLSON:

Q. That's control center Engineering?

A. Yes.

Q. Okay, okay. And you just implement it?

A. That's correct.

Q. But you've got --

A. So, it's -- so, I mean, there's a program set up, and then there's an interface for the control center engineers to type in what the limits should be, and then that will go to the shift lead, and then the shift lead implements them or, you know, clicks the button to set them as active. And then they become active for --

Q. What about interlocks or safeties on the system. Are those recommended by you?

A. I mean, a lot of the interlocks would be based at the

PLC level.

Q. Oh, okay, so that's -- yeah, that's upstream of you anyhow?

A. Yeah.

Q. Okay, so, I wanted to go back to priorities, and I didn't hear. I forgot already what you told me. Do you set priorities? You said that's by committee?

A. Yeah.

Q. So, you do have the input onto --

A. Yeah, it's -- I mean, I think CCO has the final say on what the priority is.

Q. So, we noticed when we went through the 25th that the LPM alarms, for instance, are S-6's.

A. Right.

Q. Which is a -- what is an S-6, a warning?

A. It's kind of the middle one. I mean, there's S-4, S-6, S-8, the S-8 being the most critical.

Q. And LPM invalid pressure then is an S-6 because why? Can you kind of talk to that?

A. So, the way that the severities are set on those lines is based on impact of flow. Our new -- we've been doing this alarm standardization program, and the new way will be based on operator action.

Q. Oh, okay.

A. And that's probably what more of the industry would see.

So, it's kind of a matrix of, you know, impact and how much time you have to respond.

Q. Okay.

A. But so we're going through the standardization exercise, but so line 6 is still on the old, based off of impact of flow. So, I'd have to look at the manual to see exactly what -- so, S-2's would have no impact, the S-4's maybe, and an S-8 would have an impact on flow.

Q. Okay, impact on flow meaning it's going to impact delivery.

A. Either it's going to get -- yeah, for safety or, you know, financial or contamination.

Q. And the standardization you're going through now is that based on a -- is there a standard that you said you're following?

A. Yeah, yeah.

Q. What was that -- I didn't hear -- the industry standard or internal?

A. Well, I don't know that there is an industry standard. There's a best practice. So, that's -- I mean, that's what we're following as one of the best practices of -- Karen has probably seen it as well where it's this matrix of -- you look at what the impact is going to be and then on one line, and then on the other one it would be how much time do you have to respond to that before that instant occurs.

MS. BUTLER: Are you using ISA, or are you using RP1167,

or do you know? You don't have to know.

MR. RESCHNY: It's a -- it came out of that. There's an alarm management handbook. I mean, they're all kind of -- I know -- I'd have to read them to see them, because I know they're quite similar. It's probably a variant of, yeah, between the two.

MS. BUTLER: Okay, that’s fine.

MR. RESCHNY: Like our time might be based a little bit differently. Because I mean, the ISA one, I believe, was for more for refineries, although I think there was some pipeline people on that committee.

BY MR. NICHOLSON:

Q. And this was work you were already --

A. Yeah, that started -- I think that started way back in 2007.

Q. All right, so it's not as a result of Marshall?

A. No, this was -- no, it's been ongoing for awhile.

Q. Okay, so, do you have any -- you must have some input. You work with the procedure writers for the control center? How do you interface with them?

A. Not a lot, to be honest with you. So, I mean, this project is actually -- I'm well aware of the project, but it's being run out of the project group that I mentioned earlier. But the procedure writers --

Q. You really help --

A. I mean, so these alarms will be created, and then

procedures will be written for them.

Q. Right, right.

A. But it probably comes through the CCO group that we're talking with them and then how we feed it into them would be my guess.

Q. Okay, so it's mostly between CCO Engineering and procedure writers?

A. Or there are day coordinators, yeah.

Q. Okay, it's not you at all?

A. Yep.

Q. Would it be -- maybe you can't answer these, but going back to the 25th I see, you know, I see LPM invalid pressure comes in, and then I see it clear, and then it comes in again. It does this like seven times.

A. Yeah.

Q. It clears six times. On the seventh time I don't see it clearing. Would that be unusual to see?

A. My guess would be you're kind of -- so, the pressures were probably hovering around that zero mark?

Q. Yeah, they're kind of bouncing around, right.

A. So, when we got a range on our pressures, so the zero would probably be invalid. So, on that last time, it was probably just stayed at zero.

Q. Stayed at zero, so that's --

A. So, that's probably -- that'd be my guess.

Q. I'm not missing something in this log?
A. No, I don't think you would be. That would be my guess as to why.
Q. Then on a similar note then I see, you know, they've got that mass balance alarm. Have you looked at these by any chance? Have you reviewed them since the accident?
A. I probably provided them, but I didn't go through them.
Q. Okay. Well, when they get the first five minute mass balance alarm at 3:02, and it clears shortly after that, five minutes later. But then I see two other entries that come in at 3:07. And then this latest 3:17 I see another one that says GTDMR cleared. So, I've got MBS alarms that clear without an occurrence. Does that seem -- is that unusual, or is that normal?
A. Yeah.
Q. That is unusual?
A. No, no, no, that's actually normal. That's -- so, the operator actually wouldn't see those three clears. It's actually -- so, it's a state table that it's going through, and that's something we should probably fix where as it goes through these different states, it's logging the same entry as the clear.
Q. Okay.
A. Does that make sense?
Q. Not entirely to me. I mean, I understand the truth table. But you're saying ultimately, it doesn't display?
A. Yeah, that's normal. That's actually normal.

Q. So, it doesn't show up on the console, but it's captured in the logs?

A. In the logs, yeah.

Q. Okay, so that's not unusual?

A. No.

Q. Okay, all these initial alarms that were received like from 2:58 through 2:59, the LPM invalid, the low suction pressure, the notification that a pump is being sequenced off at Marshall, those are all coming to the console though, right?

A. Yep.

Q. I mean, is there a way for me to tell looking at these which would have been --

A. The operator saw versus not?

Q. Yeah.

A. I don't know.

Q. There's not another digit or code or something tucked away in the descriptor?

A. I am not sure. Most of these the operator would see, if not all. I mean, that MBS one is a bit of an anomaly, but --

Q. So, you've seen the MBS clear before without a --

A. That's -- I mean, we looked. This is what Tim actually told me. I should clarify that. He's one of the people that work for me. He's one of the senior SCADA guys.

Q. So, he's looked at this. He caught the same thing?

A. He saw that -- yeah, this came up after the Marshall

incident when Ted was looking through the alarms and said why is this. And this is the reason Tim Lee gave.

Q. Oh, okay. One thing that I thought was a little strange in this incident was that you had such an abrupt drop on the discharge pressure at Marshall, but yet, there was no -- there's no kind of rate of change or any kind of alarm like that. Can you talk to why there isn't a rate of change alarm or something that's fairly large that would capture a significant drop?

A. We only -- we put some rate of change alarms on our densities, but we haven't put it on most of our values. I mean, in the past we've heard, I mean, just from different industry members that they cause more of a nuisance than an actual value. So, I'm not sure if that was part of the reason why we didn't put rate of change on pressures.

Q. But again, that would have come from CCO Engineering?

A. Yeah, and, I mean, the operator is going to see the pressure value drop as well, right?

Q. I don't know. Did they?

A. I guess, yeah, I don't know.

Q. All right, so, maybe the reason is because it's a transient line, and you think you'd get too many nuisance alarms under normal operation?

MR. CHHATRE: I'm sorry, I didn't hear the answer.

BY MR. NICHOLSON:

Q. I was looking for confirmation, I guess.

A. Yeah, I mean --
Q. That's what I hear you saying to me. It's a transient line, and putting rate of change on is really just going to lead to false alarms?
A. Yeah, I mean, I think rate of change alarms are a challenge. I mean, like I said, we have started putting in ones over densities.
Q. Okay.
A. Yeah, I don't know. It just --
Q. Okay, we'll just leave it at that then, because no answer is an answer. It does look like you've got low suction pressure alarms, right? Is that correct there are low suction pressure alarms?
A. Yeah, well, they exist in the system, yeah.
Q. And but do you have them on the discharge pressure then? Is there any kind of discharge pressure alarm?
A. There's high discharge.
Q. High discharge but no low?
A. No low.
Q. Is there an operator settable? Can he set his own to kind of low?
A. He can set a warning, I believe.
Q. Okay, but there's no low, low on discharge?
A. Not hard-coded, no.
Q. And maybe you're not the right person here, but I'll ask

you what are the calm-out limits? What do they do? How are they different than discharge in the case of pressure when it's --

A. The calm-out limits is for when you lose communications to that site, it will set it to a low --

Q. To a valve, for instance?

A. Calm-out limits to a valve?

Q. Well --

A. To a station?

Q. Into a station, yeah.

A. Yeah, so if you lose -- if the SCADA system loses communication to that station, the limits will get set to a lower, safer rate.

Q. Well, calm-out limits though on the 26th were set in -- they were set at Marshall, because there was a calm-out on a valve though. That would be typical as well?

A. I'm not sure. I mean, that would be a question for CCO Engineering.

Q. Okay.

MS. BUTLER: What did you say right before that? If you lose communications to a site or station, limits will what?

MR. RESCHNY: Will be set to the calm-out limits, which is typically a lower limit.

MS. BUTLER: So, pressures get set there?

MR. RESCHNY: Yeah, the limits are on pressures, so you would have a lower operating limit if you lose communications.

BY MR. NICHOLSON:

Q. And the intent is to what, just build a larger margin of safety into the --

A. I believe so, yeah, operation.

Q. So, if the control center has a problem with the screen or an alarm, they contact you? Are you the group that interfaces with them?

A. It's -- there's an on-call group made up of people within my team and the project teams.

Q. And they do that through a Factman or Maxima?

A. No, it's they call us directly. There's a pager that we set up, so they just call the same number or through our service desk, either way.

Q. Can you talk about -- so, if I put in a new valve or a new transducer, how is that commissioned? You're a part of that, right, the commission of a new --

A. Yeah.

Q. Can you kind of tell me how that --

A. Well, it's typically done through the project group, but they -- I mean, there'd be a project manager. They would get us involved. You know, they would do all of the wiring up and PLC work, and we would do the SCADA set up and our database and on the displays.

Q. Does that get approved by CCO Engineering then? They sign off on the displays?

A. I believe it's CCO day coordinators would sign off. Yeah, there's always an approval from CCO.

Q. Okay. And then there's a point-to-point check?

A. And then, yeah, and so then you would do the actual commissioning piece. Depending on the size, sometimes an operator would get called in off shift to work specifically on that commissioning effort. If it's a lot smaller, maybe the operator they'll be a window of time when the operator can be involved. So, a lot of times we can check the read backs and stuff, but the operators are always hitting the commands for that point to point.

Q. Right, sure. As far as tag names, do you set tag names for devices? Is that from your group?

A. No.

Q. CCO Engineering does that as well?

A. I'm not 100 percent sure. It's what I call the field guys again, I guess. It's somewhere downstream at the lower level.

Q. And they provide the tag name to you, and that's what you're displaying on screen?

A. Right.

Q. Do you write the -- are you in charge of the descriptors here for the commands that show up with alarms?

A. For the commands?

Q. Commands or alarms both.

A. That's by that committee group.

Q. It's also by what the descriptor will say?
A. Yeah, with the description and severity.
MS. BUTLER: By what team? I'm sorry.
MR. RESCHNY: It's done like with us and the control center.
BY MR. NICHOLSON:
Q. Do you know -- maybe this isn't you either. The PCVs, do you set up the -- do you tune the PCVs? No? Okay, you don't set up any of the --
A. No, it's just our --
Q. Do you know if they take control, or does PI control or any of that?
A. Yeah, we don't.
Q. You don't get into that, okay. Do you handle alarm management? Do you review the number of alarms?
A. That's -- yeah, we don't do that yet, actually. The -- so, it's just projects going on to change our standard. And once that's -- I mean, yeah, it's kind of informal at the moment actually.
Q. Yeah, there's no formal program, but it is your group that --
A. Yes, we will be doing that, yes. Yes, we will.
Q. When is that going to happen?
A. I suspect in the new year.
Q. Did that come about because of Marshall?

A. No.

Q. Was that something identified?

A. No, that was in the works already. There's -- yeah, the thought was that we would have the standardization and then do the management. But there's also that new regulation rate that may drive the timing of some of that.

Q. Have you done any studies at all to see how many alarms come in per day, or per hour, per console?

A. Per console. I've done a little bit on the terminals on the SCADA system, but not on a per console basis.

Q. So, what do the terminals say? Do you know off the top of your head?

A. No, that was a few years ago. I can't remember.

Q. I want to go back to these logs here. I was just going to ask you this.

A. Sure.

Q. Other people have answered this, but I'll put it back to you. Before the event that led to the shut down that led to the rupture, it looks like the operator is getting a lot of these e-superior BFD unit maximum RPM alarm clear messages. Let's see what I'm seeing here. I think it's off the 6-A line maybe.

A. Yes, it would be.

Q. Okay, is he actually clearing all of each of these as they come in?

A. I'd have to check that. I'm not sure.

Q. And does it make sense that I only see the clear, and I don't see the --

A. No, it doesn't.

Q. This might be the time to go to the displays, but I was going to ask you, I wanted to actually see the alarm screens, because there's been talk. I think there's four alarms screens that come up, is that correct?

A. There's a few different filters you can put on there.

Q. Okay, so, maybe we can take a look at those.

MR. PIERZINA: Actually, before we do that, may I ask if any alarm lines -- nobody has been able to answer this question. Some of these alarms have a number in front of the descriptor, like a nine.

MR. RESCHNY: Are you talking about the MBS?

MR. PIERZINA: Yeah, a nine or a seven.

MR. RESCHNY: There's a seven. There's a four.

MR. PIERZINA: And nobody has been able to explain what that number is. I think they all said Les would know.

MR. RESCHNY: Good.

MR. JOHNSON: I do remember that part.

MR. RESCHNY: Well, we can look -- I think there's actually more than -- I think what happened here is when we provided this, we tried to just give you the message, and there's actually more stuff there. And for whatever reason, we --

MR. NICHOLSON: Okay, let's see here. This is what you

-- is it the same? You checked?

MR. PIERZINA: Well, I didn't try -- yeah, you're right. It's the same there. So, you think something is missing?

MR. RESCHNY: We can look at that right now if you want.

MR. PIERZINA: Okay.

MR. NICHOLSON: Do you want to look at it now?

Les is going to start pulling up SCADA screens, Karen.

MS. BUTLER: If you see anything interesting, can you do screen shots or not, Les?

MR. RESCHNY: I can try.

MS. BUTLER: Awesome, because I know with Brian's memory that we can read the transcript and figure out what you're talking about.

MR. JOHNSON: Really?

MR. PIERZINA: I wasn't sure which way she was going to --

MR. JOHNSON: You should have sent Brian up here then, the other Brian.

MS. BUTLER: We've got the right one there.

MR. RESCHNY: This is where we got all that information from, right. So, there's all this. It looks like a millisecond is what it is, right? Because there's all this kind of background information that the operator doesn't see. So, this is a database --

MR. PIERZINA: Oh, he doesn't see that, okay.

MR. RESCHNY: And attribute, so it's the context is the type of class. I'm not sure what all this is. And then you've got this time. So, I think it's the millisecond.

MR. PIERZINA: The tail end of that millisecond. It's right here.

MR. NICHOLSON: Four, oh, but you don't have millisecond. Well, let's go to yours, because I parsed it out.

MR. RESCHNY: I suspect, because that's what it looks like it is.

MS. BUTLER: So, you think it's the number of milliseconds --

MR. RESCHNY: It's the last -- like there's a hole in the log file. There's a bunch more information than what the operator sees, like where is it in the database and stuff. And the last piece there is the time stamp. And so, for whatever reason when they gathered this information, that last little bit was left over. So, it looks like it's there's a two digit millisecond on there.

MR. PIERZINA: So, I can't quite tell. Where are you pointing to on there?

MR. RESCHNY: Well, this is --

MR. PIERZINA: I'm trying to figure out where it would be in the stream.

MR. RESCHNY: Oh, sorry. So, you're seeing this in most cases, but on some of them, you're seeing that, right?

MR. PIERZINA: Yeah, okay, so it's there. I see what you're saying.

MR. JOHNSON: That looks to be the answer, Karen, is it's just the end of a time stamp string, and occasionally, it got included with what was grabbed for the descriptor.

MR. PIERZINA: But they probably did what I did then. They just parsed -- they took that and then parsed it out to get just the descriptor.

MS. BUTLER: So, does the controller ever actually see that?

MR. RESCHNY: No.

MS. BUTLER: Okay.

BY MR. NICHOLSON:

Q. So, what would the controller see? How much would he see of that?

A. He would see --

Q. Oh, from OPR over?

A. But they'd also see this piece right here, the time stamp.

Q. Up to what? Without milliseconds, just --

A. Let's go with what the operator will see.

MR. NICHOLSON: That's a different time stamp.

MS. BUTLER: Do you -- I'm sorry. Maybe I shouldn't interject right now. I'll wait.

MR. JOHNSON: No, go for it, Karen.

MS. BUTLER: Okay, the LPM alarm that they see versus what we see, does it look the same way?

MR. RESCHNY: That would look the same, yeah.

MR. NICHOLSON: So, we're looking at event 1625, and he says it looks the same.

MS. BUTLER: For the controller as we have it, right?

MR. RESCHNY: That's right.

MR. NICHOLSON: So, I think what Les was saying is that the controller basically sees everything from the DRV or the OPR and to the right.

MS. BUTLER: Or from MBS?

MR. NICHOLSON: Or from MBS, yeah.

MR. RESCHNY: Right, yeah, so they'd see the --

MS. BUTLER: What about on a system? Do they see the word "system"? Like on event 1652?

MR. RESCHNY: I believe they see all of that. I believe they see all of that.

MS. BUTLER: I didn't catch that.

MR. RESCHNY: Yeah, we're getting a little feedback here.

MS. BUTLER: You guys are cutting out bad.

MR. NICHOLSON: We're hearing some extra stuff on your end.

(Off the record.)

(On the record.)

MR. RESCHNY: So, what did you want to see?

MR. JOHNSON: So, I think Karen's last question was on the system alarm, such as 1636, what does the operator see?

MR. NICHOLSON: Can you bring up the 25th? Are you in that store?

MR. RESCHNY: Oh, now you're asking tricky questions. I'm sorry; I haven't done this for a few years. Geez, I wish I could.

Do you know how to do this, Curt? It's been a few years for you too?

MR. GOESON: Just historical.

MR. RESCHNY: Right, but how far back does --

MR. GOESON: So, it doesn't go back far enough?

MR. PIERZINA: It looks like it went back to 1996.

MR. NICHOLSON: No, Brian, you cannot go back that far.

MR. PIERZINA: I remember that day.

MR. GOESON: So, you can go through and try -- go through reports, command and alarms history and search for date and location. And, Les, that's as far back as I can pull stuff.

MR. RESCHNY: So, this was a single alarm.

MR. GOESON: And what location?

MR. RESCHNY: Well, it's a system alarm, so it's not a (indiscernible) location.

MR. GOESON: Okay, so in that case, don't select a location.

MS. BUTLER: What are you seeing?
MR. JOHNSON: We're still working on a query.
MR. GOESON: If you don't select a location, it will come up with the system. Select the date and the time.
MR. RESCHNY: What time is it at?
MR. PIERZINA: This was at, the ones we're looking at, 3:00 p.m. So, 15:00 on the 25th.
MR. NICHOLSON: Okay, so that's the end date, right?
MR. CHHATRE: Time is this Central Standard or Mountain?
MR. RESCHNY: So, that should give me what I want?
MR. GOESON: Oh, you might be past it.
MR. RESCHNY: Well, this is the end time, right?
MR. GOESON: That's the end time.
MR. NICHOLSON: Oh, and two hours prior.
MR. RESCHNY: Oh, good.
MS. BUTLER: Can you search for a string?
MR. RESCHNY: Well, I can see what's in our log file, but --
MR. NICHOLSON: Would you like Curt to see if we can get an operator up here to do that, seriously?
MR. RESCHNY: Sure, if you want to.
MR. GOESON: Fine, I'll try.
MR. NICHOLSON: I mean, would you find that beneficial, I mean?
MR. PIERZINA: Yeah, I think that's what we're trying to

do is navigate the system.

MR. NICHOLSON: Yeah, why don't you do that, Curt, and see if you can get someone.

MR. PIERZINA: Anyone have a problem with that?

MR. CHHATRE: Well, you just have them make an entry as a party as to who is coming in to do what?

MR. PIERZINA: To assist with the investigation.

MR. NICHOLSON: We just need to announce it on tape when he enters.

MR. CHHATRE: We need to announce it on tape. We need to get his permission.

MR. NICHOLSON: We're going to get an operator, Karen.

MR. RESCHNY: All right.

MS. BUTLER: Okay, thanks.

MR. RESCHNY: I'm sorry. It's been a couple of years since I've actually --

MR. JOHNSON: And I'm sure we don't have to get stopped right here. I'm sure Karen has some other questions.

MS. BUTLER: Oh, yeah, I've got lots of questions.

MR. PIERZINA: Me too, okay.

MR. NICHOLSON: Go ahead.

MS. BUTLER: Go ahead, Matt. I'll be patient until you're done, like we normally do.

MR. NICHOLSON: Okay, I'm looking for some that we don't need screens for.

MS. BUTLER: Are we locked up?
MR. NICHOLSON: Well, we need an operator to navigate.
MR. RESCHNY: I'm sorry. I haven't --
MS. BUTLER: You're quite all right, Les. No worries.
MR. CHHATRE: If you guys don't have questions, then I can ask some.
MR. NICHOLSON: Well, I've got some here. Let's go onto this. Oh, do we have an operator now?
MR. GOESON: Well, we have an old operator.
MR. JOHNSON: That could mean two things, Curt.
MR. GOESON: Just baby steps.
MR. JOHNSON: And actually Jim is going to be interviewed later on.
MR. PIERZINA: Oh, is this Jim Johnston? Okay.
MR. JOHNSON: Yes, so this I think will work well.
MR. NICHOLSON: Jim, just so you know, we are on the record here. We're being recorded. Can you state your name and spell it for us? Title?
MR. JOHNSTON: Sure. Jim Johnston, J-i-m, J-o-h-n-s-t-o-n. My title is training coordinator in control center Operations.
MR. NICHOLSON: Okay.
MR. JOHNSON: And maybe because there's two of them, your middle initial?
MR. JOHNSTON: Oh, good, yeah, middle initial is "S" for

Scott.

MR. NICHOLSON: Okay, terrific.

MR. CHHATRE: And do we have your permission to record this conversation?

MR. JOHNSTON: Yes, you do.

MR. NICHOLSON: Okay.

MR. CHHATRE: Matt, do you want to state why Jim is here?

MR. NICHOLSON: Well, it's all been recorded up until now, but I will state for the record that Jim is here to help navigate the SCADA system. We've got the screens up. He's going to help us pull up historical alarm reports for Line 6. So, basically we were going to try -- Jim, I don't know if it was explained. We're going to try and -- we wanted to validate what the operator was seeing on these alarms that occurred on the 25th of July.

MR. JOHNSTON: So, is this the timeframe on the panel that you're looking at?

MR. RESCHNY: Yeah, it's just the report.

MR. JOHNSTON: And just all stations?

MR. RESCHNY: Yeah.

MR. JOHNSON: To the best of your ability, Jim -- I know you're another soft talker -- we are recording, and Karen's on the phone. So, --

MR. JOHNSTON: Okay, very good. I'll speak up.

MR. RESCHNY: This is at the -- this is a site 2 machine.

MR. JOHNSTON: Okay. So, it's saying on this console I'm not getting data for that report. Let me try another one.

MR. JOHNSON: Seeing as how this is kind of an integral part, is there a better console we could go to, Jim? So, I mean, think about that.

MR. CHHATRE: We've got to be more specific than that as to which Jim we are talking to.

MR. RESCHNY: Select Marshall if you want.

(Pause.)

MS. BUTLER: Are you guys still with me?

MR. JOHNSON: Yeah.

MS. BUTLER: That's fine. I just wanted to make sure you're still with me. You know, we get nervous when we don't hear anything.

(Pause.)

MR. RESCHNY: I think so. I mean, can we do it from the control center and print it off and then bring it up?

MR. JOHNSTON: Well, I can try.

MR. RESCHNY: Because it will probably work downstairs.

MS. BUTLER: Is the system giving you problems, or is it just getting to the right point?

MR. RESCHNY: I think it might be a where we're sitting problem?

MR. JOHNSTON: Yeah, this console is generally a simulator console. We don't use it much for this sort of thing.

MR. NICHOLSON: Well, can we see a simulated system alarm? I mean, can we see --

MR. RESCHNY: That's what I had brought up.

MR. NICHOLSON: That's as far as it goes?

MR. RESCHNY: But to get that exact alarm, we could probably get a printout if we go down to the actual console.

MR. JOHNSTON: Do you want me to get that then?

MR. NICHOLSON: Yeah.

MR. JOHNSTON: Can I have that sheet?

MR. NICHOLSON: Sure.

MR. RESCHNY: I know some of the --

MR. PIERZINA: Well, the question that came up was does the operator see that system.

MR. NICHOLSON: How does that appear?

MR. PIERZINA: Yeah, how does that appear to the operator?

MR. NICHOLSON: All those alarms, really.

MR. RESCHNY: Thanks, Jim.

BY MR. NICHOLSON:

Q. So, I guess we can go back. My original question was, you know, what alarm screens are there, and how are they organized. Can we at least get that far on here?

A. Yeah.

Q. Okay.

A. So, there's commands.

Q. Okay, let's see that. Can we go to command?

A. So, right now, there's just the one in there. So, these would all show up as green.

Q. Okay.

A. It logs S-1 in the system, but --

Q. It's S-1?

A. Well, that's kind of irrelevant, I guess.

Q. Oh, that's not a priority though?

A. Yeah, it's -- yeah, it's kind of a behind-the-scenes thing.

Q. Okay.

A. So, this is where all their commands would show up. This isn't the live production system.

Q. Right. Okay, so there's one screen for commands?

A. Yeah.

Q. It does appear chronologically?

A. Yeah, it will just keep coming up. The screen and the scroll bar will appear if there's a bunch.

MR. PIERZINA: How would he arrange -- when you go to like -- you're going to start opening the alarm screens. How would --

MR. RESCHNY: I think -- I mean, they typically have their alarms, you know, at the bottom is what I've seen.

BY MR. NICHOLSON:

Q. Okay, their alarms or their commands?

A. Both, like they'll have a bunch of monitors.

Q. Right. So, do you want to open the alarms? I want to see.

A. I honestly don’t know which one they use the most. These are the active ones. So, they would -- so, there's nothing active in here. But if there was active ones --

Q. And active shows up in which color?

A. It will depend based on --

Q. On the priority?

A. That's right. So, there's white for informational, and then yellow, red, and then white on red.

Q. I'm sorry. So, S-4 is yellow?

A. Yellow. S-2 is white.

Q. S-6?

A. Red on black. And S-8 is white on red.

Q. And each of those has an audible as well?

A. Four and up do, yeah.

Q. Four and up do, okay.

A. Yeah, two is more of a --

MS. BUTLER: So, what did you say the colors were? I'm sorry. I couldn't hear you.

MR. RESCHNY: So, S-2 is white on black.

MS. BUTLER: Okay.

MR. RESCHNY: S-4 is yellow on black. S-6 is red on black, and S-8 is white on red.

BY MR. NICHOLSON:

Q. But you can't bring up any simulated alarms here?

A. Well, this one has a bunch of -- so, if we go to the historical, you can see a bunch of them. As you saw, there's a bunch of old stuff in here.

Q. Okay. Well, there's -- so, there's some --

A. So, S-4 -- yeah, so here's a system.

Q. That's what I was wondering, yeah.

A. So, and that's why I didn't answer right away, because it looked a little --

Q. Yeah, it didn't look anything like that. That's a S-2, right?

A. Yeah. So, this is our monitoring program. Well, it'd come from the system, so like that one.

Q. And I know I asked this in IR, but I haven't wrote some of these. The LPR and the -- what is that?

A. DRB.

Q. Exactly, yeah.

A. So, here's the straight out of the manual. So, OPR is -- and this is what's in the IR as well, I'm sure.

Q. Okay.

A. So, the OPR is from the field. So, like something coming -- a bit coming from the PLC.

Q. Okay.

A. DRV is derived based on calculated value rather than a direct read-back from the field. And then SYS is within the system.

MR. JOHNSON: Keep speaking loud.

MR. RESCHNY: Can you hear me, Karen?

MS. BUTLER: I heard OPR is from the field. DRV is derived. And did you say SYS is systems?

MR. RESCHNY: Yeah, that's right.

MS. BUTLER: Okay.

BY MR. NICHOLSON:

Q. But I thought on one of the IRs it said everything that said SYS or everything that said console 5 was an operator command, right? It's a -- that's a command from the console. But then there was also one where a valve was closing, I think. I gave my sheet to Jim now. And it might have been an OPR, but the description we got here was that it was operator initiated. I think it's when he closes one of those Stockbridge valves.

MS. BUTLER: I think you might have been referring to the Griffith injection valve. It comes in as an OPR, because it's off of another console.

MR. NICHOLSON: Oh, is that the -- oh, so there's -- well, that just says that says traveling closed.

MR. RESCHNY: Right.

MS. BUTLER: That just says closed for travel. Are you

looking for something different?

MR. NICHOLSON: I wanted to find -- where's that Stockbridge?

MS. BUTLER: That's further back. They drive the holding sets. That's a command.

BY MR. NICHOLSON:

Q. That's where the valve closes. I was looking for -- well, I guess, so if he drives a valve closed at Stockbridge, we should see a command that says --

A. If he sends the command, then yeah.

Q. I should see valve closed, right?

A. Yeah.

Q. Because that's one of the things. Like here, I see Stockbridge valve open.

A. Yeah, so the E's I believe are operated -- oh, no, that would be operator --

Q. I thought I saw one where he actually --

MS. BUTLER: What did you say was operator what? What was the last statement? I'm sorry.

MR. RESCHNY: We're just kind of looking through the pages right now.

MR. NICHOLSON: I had a question about that Stockbridge valve, because it shows -- it seems like it shows up two different ways. And I guess --

MS. BUTLER: I remember that, but I'm trying to remember

it specifically exactly which one it was.

MR. NICHOLSON: There's too many days. Maybe that was on the 23rd.

MS. BUTLER: If you look at event number, this is on the 26th.

MR. NICHOLSON: Okay.

MS. BUTLER: I'm looking at, like, I see 24 Marysville shows an open, and I'm not seeing a command.

MR. PIERZINA: That would have been from the (indiscernible) terminal.

MS. BUTLER: Stockbridge lock valve shows an open on event 31.

MR. NICHOLSON: On event 31?

MS. BUTLER: Yeah, and I'm not seeing a corresponding command.

MR. NICHOLSON: So, in this instance on the 26th, Stockbridge, that's a block valve. That is open, right? But we couldn't find -- where did the operator actually tell it to open?

MR. JOHNSTON: Well, this is the command to open the Stockbridge valve, right? And then doesn't -- no, that's a different valve.

MR. RESCHNY: No, it's the same one.

MR. JOHNSTON: Yeah, so you commanded it open here.

MR. RESCHNY: 64-6-B.

MR. JOHNSTON: Commanded it open up there, and then --

MR. NICHOLSON: That's where it -- where is it in travel? Does it have it in travel?

BY MR. NICHOLSON:

Q. You might only get that alarm if it's over 60 seconds.

A. No, it's right here. So, it's seven -- so, they sent the command at one and 40 seconds. And then you've got the in travel open.

Q. So, the 25th though we don’t see that. I don't think there's the same sequence. We don't see the -- and he walked away with my 25th, but on the 25th I don’t remember seeing this. All we see is valve --

A. Just an open --

Q. Yeah, well, we see in travel and then open. And I guess the question is why, why is that. And I actually thought -- I thought the write up from your control center or the control center had said the command to open came from an OPR.

A. I'd have to look at it.

Q. I'll look that up while Karen is asking her questions. So, back to the alarm screen. So, there's four of them, right? There's a historical, active --

A. Command and then a station.

Q. Command -- oh, command is one of the alarms screens then?

A. Yeah, that's this one.

Q. Okay, active.

A. Active and historical, and then station is on a specific station. And that's another thing we can't bring up from in here. But they can also --

MS. BUTLER: Do you have the different types of alarm screens?

BY MR. NICHOLSON:

Q. Yeah, I wanted to see each of these alarm screens.

A. So, the call letters here will also change with the highest alarm severity.

Q. Okay.

A. And you can bring up -- so, for example, if there was an S-6 alarm at Griffith, this would be -- these call letters would turn red.

Q. Okay.

A. And then you can just right click here and also bring up the station alarms for that station. But this isn't going to work because we're up here.

Q. Okay, but on this screen then what do I have? What's -- oh, that's that MON --

A. Yeah, this is the line display.

Q. Monitor holding.

A. Yeah.

Q. What's RSS? Oh, room to suction set point?

A. Yeah, room to maximum suction, suction set point, suction throttle discharge.

Q. Okay, this is basically everything I had in that one text file that you sent.

A. Yeah.

Q. Okay, good.

MS. BUTLER: So, Matt, were you talking about IR135 before?

MR. NICHOLSON: I'm not sure. What's IR --

MS. BUTLER: It says their answer -- your question was the July 25th, 2010 first shift operator made two set point changes at Stockbridge changing from 200 to 250 and the lines being shut down. Please confirm that these are level changes. Is there a modulating valve at Stockbridge?

MR. RESCHNY: No.

MS. BUTLER: Okay.

MR. NICHOLSON: No, I was talking about that valve that we identified in one of the interviews. The XV valve is where I was going with that earlier conversation where I've got my sheet back. On line event 1643, we see it's in travel closed.

MR. PIERZINA: And that's the valve from Line 6 to Line 17.

MR. NICHOLSON: Yeah, that's the cross-over valve. That's right. But we never saw an initiating command to close this.

MR. RESCHNY: Yeah, I'd have to look. It maybe from the Line 17 operator if he operates that valve, but I'd have to look.

MR. PIERZINA: That'd be the same guy, same console?
MR. RESCHNY: Yeah, that's right. Stockbridge is --
BY MR. NICHOLSON:
Q. Well, I'll come back to that, because I think I can probably locate some other stuff in there. So, just going back to these screens here, unless you've got more on that.
A. Well, it might -- you guys requested all the Line 17.
Q. Just recently, yeah.
A. Yeah, so it might be in that stack.
Q. Okay.
A. But yeah, I'm just kind of guessing.
Q. Okay, so it might be on another screen. So, the four alarm screens we have here, that'd be for one line, just Line 6, right?
A. Yep.
Q. So, he'd have the same four screens for Lines 3 and 17 on console 5?
A. The -- yeah, he would.
Q. Twelve alarm screens?
A. I -- you'd have to ask the operators, but I'm not sure which ones they all have open.
Q. But they could have as many as twelve?
A. They could.
Q. Okay, the historical -- what is that? What's on the historical? If I acknowledge alarm, does it fall down to the

historical? Is that what that is?

A. It will -- yeah, it will stay showing up here, even after you acknowledge it, whereas in the active one, once it's cleared and acknowledged, it would not show up on the screen.

Q. It would go away completely?

A. Yeah.

Q. And these are all listed chronological on each of those screens?

A. Yeah.

Q. Okay, can they change? I thought I saw something that will allow you to change it. I thought I saw a chronological and one other option on there.

A. No, it's always --

Q. It's always -- they can't change it by priority?

A. No.

Q. Okay, so, as far as acknowledging an alarm that comes in, you can do what? You can only acknowledge it. You can't shelve it, clear it. What options do I have as an operator?

A. You can just acknowledge it.

Q. That's it?

A. You can't -- yeah, disabling or shelving goes through a whole other process.

Q. Do you have -- you can shelve alarms?

A. So, the SCADA group can do that with the right approvals, yeah.

Q. Okay, but it's not something he can just do from the console?

A. Yeah, the operator can do that.

MR. NICHOLSON: Karen, why don't you go ahead and take a round here.

MS. BUTLER: Okay, all right, great.

BY MS. BUTLER:

Q. I need some basics just to start off with, okay. So, on the SCADA system platform, what's that based off of?

A. Oh, so it's based off of RTAP.

Q. Okay, and what version are you guys on?

A. I can get that for you.

MR. NICHOLSON: Well, that was actually an IR request. I think --

MR. RESCHNY: Oh, is it?

MR. NICHOLSON: Yeah, I think we've got that.

BY MS. BUTLER:

Q. Make sure that we're still running the same version that was reported to us.

A. We're actually on -- well, there's a Lennox version and an HP-UX version, so we're in the middle of porting to Lennox.

Q. Okay, so you're going to that?

A. Yes.

Q. Okay, and when do you think that will be complete?

A. We've done -- yeah, I'm not sure. I'd ask the project

guys.

Q. Okay, can you estimate it, like in a year? In six months? In four months?

A. For the Edmonton control center?

Q. Well, whenever you're going to your Lennox phase, whenever.

A. Well, we've got several SCADA systems, and some have already been ported to Lennox.

Q. Okay, is 6-B one of them?

A. I'm sorry?

Q. Is 6-B one of them?

A. No, it's still on the old, on the old one, yeah.

Q. So, will 6 be done sometime in the near future?

A. It will be done this year, I believe, yes.

Q. Okay, and how do they prioritize that, Les?

A. It is -- I think there's a couple of factors. We have different flavors, so, I mean, it's done in a few projects. So, the first project did one of each type. So, we had to pick one of each type for that, and it was prioritized based on, you know, how much it's being used, are there other projects conflicting, and the other ones are being dealt with the same way.

Q. Okay, does this new Lennox buy you any performance improvements?

A. Hard to say right now. It's looking like yes, but we only have one system or one or two systems on the box versus six.

Q. Okay, all right, when I look at the Marshall low suction pressure, which I think Matt can show you off his hard copy there, when I just look at how that comes in, it just tells me Marshall low suction pressure. How do I know that that's coming from the field or from the SCADA system? Like how do I know whether that's the alarm limit was activated based on what's in the PLC or the RTU is passing it, or based on what's a limit in the SCADA system?

A. That's a good question.

Q. All right. So along those same lines, what makes sure that a pressure limitation like that that would set off an alarm would be equivalent in those two pieces of equipment or intentionally not equivalent for some reason? What would -- how would I go about knowing that?

A. Knowing that the limits are right?

Q. Well, knowing that the limits are either exactly the same or they're different for a specific reason?

A. The limits in the PLC are read back through the SCADA system, and there is a disparity alarm if they're different.

Q. Okay. And there is disparity?

A. Yeah.

Q. Okay, so I am -- in other words, I wouldn't just see disparity alarms on transmitters. I might see disparity alarms on anything that's being read from the PLC?

A. On the pressure limits that are set by the CCO, yes, we would.

MR. NICHOLSON: So, how would that come in then? It would come in as a disparity alarm?

MR. RESCHNY: It comes in, in two ways. It will come in as an alarm and on your -- go to -- so, when they actually set new limits, they would go to this page. Where is Marshall? And then this would highlight in red as well, whichever one.

MR. NICHOLSON: To tell you, you weren't matched?

MR. RESCHNY: Right.

MR. NICHOLSON: Okay.

MR. RESCHNY: So, you've got your PLC and your control center limits for this.

BY MS. BUTLER:

Q. So, what would the beginning of that descriptor say? Would it say Marshall low pressure disparity, or would it say --

A. I'd have to look that up.

Q. Okay, all right, we'll go back to just a few things we've already talked about, and then I'll ask some different types of questions.

A. Okay.

Q. You know, we talked a little bit about LPM system and whether or not it can shut off on low pressure, and you mentioned you would check on that for us. Are you considered the LPM expert, or who's kind of the brains behind who programmed that LPM module or software section?

A. Who's the expert?

Q. Yeah, if there is such a thing.
A. There is Tim Lee. Phil Martin is becoming one, and Russ Sukeroff (ph.).
Q. And are they just specialists in that particular software little routine, or are they like specialists in programming SCADA?
A. I would say in programming SCADA.
Q. Okay, all right, so do you know what was the entire purpose of that whole LPM module?
A. It would be for safety.
Q. So, is it just, I mean, protecting pressures? Is that the concept?
A. Yes.
Q. So, it's going to protect pressures at one spot on the pipeline by adjusting another one. Is that the concept, by adjusting a different spot?
A. Right, yeah.
Q. Okay, and so, can it only work a station at a time?
A. I believe that's -- yeah, it will look up. It will always look to the upstream station.
Q. To make the adjustment?
A. I believe so.
Q. Or to look at the upstream station to make the downstream adjustment?
A. I believe the LPM system will make the adjustment at the

upstream station.

Q. Okay, so, when it does that, I'm concerned about two fundamental things happening, and that is it's going to look, I think, at what it's trying to control and then make set point adjustments based on how to get that element back within some reasonable range or smoothly back to some control point. But what happens if you have a communication outage at the same time? Do the limits conflict, or does one always take precedent over the other? How does that work?

A. Well, LPM doesn't change your limits. It will just turn off a pump. So, if there's a calm out, there will -- the limits would be dropped.

Q. So, will it always only turn off a pump and not adjust the set point on a throttle valve or control set PCV valve?

MR. PIERZINA: Is that maybe better directed at Curt even, Les?

MR. RESCHNY: I mean, yeah.

MR. GOESON: I can certainly help.

MR. RESCHNY: Sure.

MR. NICHOLSON: Yeah, go ahead. Clarify for us, please. Speak up.

MR. GOESON: Karen, can you hear me?

MS. BUTLER: Now I can.

MR. GOESON: Okay, sorry. So, the calculation are its dynamic limits. So, it's at the upstream discharge. It will

recalculate limits until it hits calm-out. If it's at calm-out, it's already at its safest condition.

MS. BUTLER: Okay, so, if I have a shift lead that's received some integrity management pressure limitation change, and they're at the console imputing those changes, and this system is activated, what happens? Which one wins?

MR. GOESON: Okay, so, the LPM will always act on the current limits.

MS. BUTLER: Okay.

MR. GOESON: So, if there's new limits imposed from an integrity, those become your new operating limits, and those will become the new limits embedded in LPM calculations.

MS. BUTLER: Right, right. So, if it was in the process of making an adjustment, and you enter a new set point change, a new limit because you just got the notice as a shift lead, and you're going to do that at the first available moment. So, you enter that, then there's nothing -- the LMP would just continue to operate until it was happy, and then it would adjust to the new set point?

MR. GOESON: So, yeah, in theory, but in actuality, Karen, we would never implement new limits in a system that's in transition.

MS. BUTLER: Well, according to the shift leads, there's no requirement as to when they do that. They just do it when it meets their schedule.

MR. GOESON: Well, I can't comment on that. It's best if --

MS. BUTLER: All right, so that's a concern of me. Okay, all right, so in theory, the idea would be that you would have a steady system, and then you would implement it then?

MR. GOESON: Correct.

BY MS. BUTLER:

Q. Okay, all right, so what are -- in general in our SCADA system, are we pulling by exception or pulling certain types of points all the time, or we've got a mix? What are we doing?

A. That's repot by exception from the RTU.

Q. Okay, so across the board, correct?

A. Yes.

Q. Okay, so on the MBS side, if they don't get a report because nothing has changed, then how does that work? Like it's got an element that says hey, I haven't seen this particular value update, so I'm going to put it in as a bad point. So, how do we make sure that if we're only reporting by exception, we're not causing the MBS leak detection system to lock up for a period of time or not process that portion?

A. I believe so the SCADA system feeds the leak detection system, and I believe it will automatically send everything after a certain amount of time.

Q. Yeah, so, we're really doing reports by exception unless we put a certain time frame, is that right?

A. Well, so the report by exception if from RTU to SCADA.
Q. Right.
A. And then SCADA to leak detection, yeah, it would be what you said where it's report by exception with a full send if --
Q. Okay, so what is the maximum time we can go without a report before the SCADA would pull the point anyway and send it to the leak detection?
A. Can you say that again?
Q. If I'm understanding this correctly, and maybe I'm not, so okay, so, we're sitting here, and everything is wonderful. And the pressures are pretty steady, so, we just haven't had much of a change. And so, I'm not getting any reports by exception through the RTU, but my leak detection wants to see an updated value, because if it hasn't seen an updated value within so many seconds, is that right, then it triggers it as a bad value?
A. Right.
Q. So, something has to say go out and pull that data anyway, right?
A. Yeah.
Q. Okay, so does that something exist within the SCADA system that's on say a programming loop that says if I haven't seen a change after so much time, then I'm going to seek the data again anyway? Does that make sense?
A. Yeah, I would have to check, but I think it just resends the SCADA value to MBS.

Q. Okay, the reason that part of this bothers me a little bit too is because in some of the data that we received, it really does appear like there's some pressures that are not moving at all for an extended period of time. And maybe they're actually changing in decimal places, but it does look like we have some lock up periodically. And I don't know who looks for that. I know that the SCADA system is supposed to have a back-laying feature, right, if the data hasn't updated? The stale data feature, is that right?

A. Yeah, there's -- so, we send -- it's kind of two way. We send heartbeats to the PLCs, and we also read back a counter from the PLC.

Q. Okay.

A. So, if either one of those is out of a duration, then the data goes bad.

Q. Okay, and so, do we have certain locations where we're constantly encountering this, to your knowledge?

A. No.

Q. Okay, do we have certain locations that seem to be more frequent at encountering that than others?

A. Not to my knowledge, no.

Q. Okay. All right, I think you indicated that you're in the process of reviewing like the severity impact from an alarm to the operator or based on their action what's required of the operator. You'll look at changing maybe some of how the

priorities are set up. Do you know are you going to still keep a priority system?

A. Yes, but the -- what most books will tell you is that the S-4 is -- it's really three for alarms. And so, that would be the S-4, 6 and 8. And the S-2 would be what most companies call an event, I think, is what they call it.

Q. So, is there some reason why we really don't have low suction pressure values that are just straight in the SCADA system that really are never changed? Like they're hard. They're just there. So, like Marshall hitting zero always triggers a certain type of alarm. Is there some reason we really don't have that in the system?

MR. NICHOLSON: I think that decision would be outside of Les' area.

MS. BUTLER: Well, but he may have -- he may have been involved in that decision. That's why as a team --

MR. RESCHNY: Right.

BY MS. BUTLER:

Q. So, I'm just asking is there anything that you're aware of that you remember discussion around that?

A. Yeah, that discussion hasn't come up in any of the meetings I've been in.

Q. Okay, do you think that that's a complicated thing to implement for like stations in the valve settings on 6-B?

A. No.

Q. Okay.

A. What did you mean by valve settings?

Q. Well, in the model there appears to be some potential locations where there might be transmitters that aren't necessarily stations.

A. Oh, so like a pressure at a valve?

Q. Right, so if you wanted to do it on pressures, wherever you had at least one life pressure transmitter that you could implement a firm low pressure alarm.

A. Right.

Q. That never moved?

A. Right.

Q. Did you also do that with high pressure without a big deal?

A. Yeah.

Q. Okay, okay, how can I tell or what do you think the controller has to look at when I see this -- and if you're not the person, just say so -- when I see this LPM alarm that says "invalid pressure" and it's not able to detect over pressure. So, I know that it's happened at Marshall, but if I want to dive into what actually happened with that particular software programming not being able to process, what does the operator have at their fingertips to actually find out what prompted that alarm?

A. On the line display they would see the invalid pressure that LPM looks at.

Q. So, would it say invalid on the screen, or how do they know which one it was?

A. It would have a gray background which indicates our invalid value.

Q. Okay, so gray indicates invalid?

A. Yeah.

Q. Okay.

MR. NICHOLSON: Wait, I didn't hear that. It would be gray around what, the pressure reading?

MR. RESCHNY: Yeah.

MR. NICHOLSON: Okay, on the suction side?

MR. RESCHNY: On the monitor.

MR. NICHOLSON: Or whichever side you got it.

MS. BUTLER: See, I don’t think -- I don't know that we know. We know it was Marshall where it was impacted, but I don't know if we know if it was discharge or such.

MR. NICHOLSON: But that's what your question is, right, how would you know?

MS. BUTLER: Right, I'm trying to figure out how they would know where that actually occurred and what it was that that should be telling them. And so, basically on the line display I could go and see what's backlit gray, is that correct?

MR. RESCHNY: Curt, do you want to clarify if I'm wrong?

MR. GOESON: What's that, Les?

MR. RESCHNY: The LPM when you hit that invalid pressure

on LPM, which pressure on the line display would show a gray background in zero pressure?

MR. PIERZINA: Yeah, you're just verifying that that's correct.

MR. GOESON: Yeah, I think there is a couple of conditions that impact how LPM functions. One is a low pressure and the gray background which is blue. One is -- and the other one is a gray background which is symbolic of, you know, transmitter failure or PLC failure.

MR. RESCHNY: Out of range.

MS. BUTLER: So, is -- when gray is out of range or transmitter failure, are those the only things that you guys are aware of that can trigger this LPM invalid calc?

MR. GOESON: Is that question to me, Karen, Curt here?

MS. BUTLER: Yeah, to either of you, because if we need -- we can ask the experts on this. We can submit a data request if we're really not sure, and maybe we're not.

MR. GOESON: Yeah, to my knowledge, Karen, I'm only aware of either, you know, PLC failures whenever data is out of range or a low pressure, whenever the read back is anything but a numerical value.

MS. BUTLER: Okay.

MR. RESCHNY: And that's my understanding as well.

MR. NICHOLSON: I'm sorry, did you say the background turns gray, or you said it outlines?

MR. RESCHNY: The background, so it'd be a --

MR. NICHOLSON: Because the background also goes blue, right, when it's low pressure?

MR. GOESON: The value goes blue.

MR. NICHOLSON: Okay.

MR. GOESON: So, a low pressure is blue on black. I think the out of range state that Les is talking about is white on gray. Does that ring a bell? I'm trying to remember back a few years.

BY MS. BUTLER:

Q. So, is there -- can they ever see a negative if the transmitter goes bad, or do you clamp that?

A. It's clamped at zero.

Q. Okay. Is there anything when it's specific to a bad transmitter that can be unique, like do you have an alarm that would just say bad transmitter?

A. I would have to look. I mean, there's some in the terminals, I know.

MS. BUTLER: Okay, Curt, do you remember seeing any?

MR. GOESON: No, I don't recall, Karen, sorry.

BY MS. BUTLER:

Q. Okay, so, just so you guys are clear as to why I would ask those questions, so if you think about it later, and something comes to mind, is because those came in, you know, right in conjunction with the low suction pressure from Marshall and a unit

shutdown. And I am concerned when I look at that that an operator would immediately think that we've got some pressure transmitter problems and not think we had actual low suction, especially when we had an alarm on a leak detection system come and then clear. So, that's why I'm trying to get to the root of how that functions, that system functions, because I just don't understand enough.

Okay, you mentioned that in the log there's things that the operator can't see. Is there a clear cut designation on that? Is there a way for us when we go back and check this out to know exactly what the operator saw versus what is in our log?

A. I can look into that for sure.

Q. Okay. When you guys in SCADA routinely review things are you looking at the server load on various environments as one of the things you check periodically?

A. Yes.

Q. Okay, and do you have a couple of servers on 6-B that are heavy loaded?

A. I think we sent you some of that.

Q. Yeah, I'm just not sure that I read it right.

A. Yeah, the load was -- I can't remember what it was. It was under half.

Q. Okay, when I see things ahead of the accident date, and if I see an alarm like RTAP too busy to process, what's that telling me?

A. So, that's one of the system alarms.
Q. Okay.
A. And there's -- how do we say it? There's like a watchdog monitoring all of these different processes.
Q. Right.
A. And if it doesn't get through the entire list in the duration that's required, you get that alarm. But what happens it starts where it left off and continues on. So, if you see it multiple times in a row, that would be a concern. But if it's just once, I wouldn't be too concerned. Although, it is -- yeah, it would be something we would want to address.
Q. Okay, so if I see it multiple times, is the solution that I try as the controller to reboot first and then call you, or what's the --
A. No, we wouldn't reboot.
Q. Okay.
A. There's a number of ways to fix this. It may -- we've added new processes, so it could be that we just haven't given enough time for the system to go through all of its checks. That could be one reason.
Q. Okay, so if I need to know or was trying to troubleshoot that, and I needed to know what system it was hanging up on or appeared to not process, how do I find that information? Can you look at anything diagnostically on your end and tell where it was in its list?

A. Yeah, there's tools to look at this for sure, and you can see which one's taking longer than others.

Q. Okay, can -- have you ever noticed that certain things take longer than others because there's like a field problem, there's an actual hardware problem, or is it mainly just software connections?

A. It's mainly software for these.

Q. So, a communication error, for example, isn't going to cause this type of symptom?

A. No.

Q. Okay. Okay, so if we were, like, to give you two events where we actually had that as samples, then we could later put in a request, and you could go back and take a browse at what was going on, or does that type of information not get saved over an extended period?

A. Yeah, it would be tough to go back and try to figure it out.

Q. Do you guys ever do like a one to one --

MR. CHHATRE: I'm sorry, does that mean yes or no?

MR. RESCHNY: The way to solve these, I think, would be to look at, you know, how often these are showing up.

MR. CHHATRE: If you know -- I'm still confused. She's asking you if you can or not.

MR. RESCHNY: If you were to just give me one and ask what was happening, I would say no, that would be pretty hard to

figure out what caused that particular one. Because, I mean, it cycles. It's not so much a symptom of the particular --

MR. PIERZINA: That was on the 24th actually.

MR. RESCHNY: Yeah, so I think I saw an RTAP timekeeper in there. It's not so much a symptom that there's an issue of RTAP timekeeper, it's just that that's where it happened to end in its queue of monitoring when its time expired, and then it would catch that one the first time around and the next time. So, --

MR. CHHATRE: So, it cannot be done, or you may try, but success is not guaranteed? I'm not sure what your answer means. I mean, I understand what you're saying, but does that mean that you'll try, but success is not guaranteed, or does that mean no, it cannot be done?

MR. RESCHNY: If you were to send me an alarm from July 25th that's in archive --

MR. CHHATRE: That's what Karen is asking. Is that correct, Karen?

MS. BUTLER: Yeah, I think his answer was it would be difficult to go back in time and do it.

MR. CHHATRE: But that doesn't mean impossible or cannot be done. Difficult meaning it takes a lot more effort. It doesn't mean it cannot be done.

MR. RESCHNY: Right.

MR. CHHATRE: And the question is how bad you need it.

MS. BUTLER: Okay, so --

MR. RESCHNY: I mean, I could ask. For me, I don't see how, but I could ask some of my experts.

MR. CHHATRE: That's fair, I guess.

MR. NICHOLSON: So, Les couldn't do it.

MR. CHHATRE: Somebody could make an attempt to do it, right?

MR. RESCHNY: Yes.

BY MS. BUTLER:

Q. Okay, so, are you guys using any wireless pressure transmitters or wireless transmitters at all?

A. I don't know actually.

MR. GOESON: No.

MS. BUTLER: Okay.

MR. NICHOLSON: That was emphatic. Why?

MR. GOESON: I've been to them. They are not wireless, the pressure transmitters. That's what she's asking.

MS. BUTLER: What about flows or --

MR. NICHOLSON: You guys have the wireless pressure transmitters?

MR. GOESON: No, you're not. They're all hardwired.

BY MS. BUTLER:

Q. Okay, and is that true of anything that light pressure that -- pressure flows, temps?

A. I would say yes, and we can confirm with Bill Bock.

Q. Okay, that would be great. Okay --

MR. CHHATRE: Can I say something? It's an hour-and-a-half for the guy sitting here. Do you need a break of five minutes, or are you okay?

MR. RESCHNY: I'm okay.

MR. CHHATRE: Okay, continue.

MR. RESCHNY: It's up to you guys.

BY MS. BUTLER:

Q. Are you okay to continue?

A. I'm okay.

Q. All right, so, if the CMT system locks up, and we know that periodically they have trouble with that, and somehow the CMT system does send information to the MBF system, because they at least get commodity codes out of it, is there the CMT to SCADA interface, is there anything going on with that?

A. Can you specify? What do you mean is there anything going on with that?

Q. Yeah, like how do -- do the two systems talk to each other at all?

A. Well, so CMT sends data to SCADA and then SCADA to leak detection.

Q. Okay, so if CMT sends data to SCADA and it periodically locks up, the CMT system, because we've heard pretty consistent complaints about it will get really, really slow, and sometimes, I guess, it won't do anything, what does that do to SCADA and then consequently to the leak detection system? Does that just like

snowball, meaning, you know, it's delayed from CMT to SCADA clearly? SCADA just ignores it and leaves it at its last value, because nothing has changed? Then SCADA continues to pass the same information to MBS, which in turn tells MBS that there's a problem, and it just flags it as bad data? Is that how it works, or do we really know how that interface can complicate the operator's lives?

A. I mean, yeah, that's -- I mean, that sounds like questions for CMT and leak detection.

Q. Okay, okay, so, has anybody like had conversations like this with SCADA and CMT and MBS all in one room plus the representative of the controllers where you like talk about how one thing interfaces with another and can cause problems?

A. We meet monthly.

Q. Okay, all of you meet monthly?

A. Yeah, the supervisor of CMT, myself, the supervisor of leak detection, and then members of the control center.

Q. Okay, and are you all together, or do you it like you meet with CMT --

A. All in the same room.

Q. Okay, and do any of these types of things come up?

A. The CMT locking up came up in our last meeting.

Q. Okay. So, are those meetings and the problems documented, like what you discuss as a team and then what you're going to do about it?

A. Yeah, well, it's month to month, so --
Q. If you don't know, that's okay.
A. Well, I mean, sometimes -- we started doing this a few months ago. Sometimes, there's been action items that were followed up on.
Q. Okay, so, you know my question next is well, you started doing that a couple of months ago. Is that kind of the fallout from Marshall?
A. No, it was --
MR. RESCHNY: Was it before Marshall, Curt? I think it was.
MR. GOESON: We met on --
MR. RESCHNY: Yeah, the intent of doing it was definitely before Marshall, and I think we spent --
BY MS. BUTLER:
Q. Okay, and you can't be clear whether it made it or not?
A. Yeah, it wasn't because of Marshall, no.
Q. Okay, so the intent to do it was before Marshall?
A. And I think we started before Marshall as well. I think we started early in the year.
Q. Okay, so for whatever reason, we recognized that there was a need to do it?
A. Right.
Q. Okay, and then as a result, we started it. And so the outcome of that may be some action items. So, when the outcome of

that determines some action items, then how do those action items get prioritized?

A. It's largely based on the control center's needs, so they will prioritize them.

Q. Okay, so, is that documented anywhere on a specific form, the outcome of those meetings, or do you keep minutes?

A. So, this is set up by our business relations advisor, and I know I've seen documents for some of them.

Q. Okay, so, who is the business relations advisor?

A. This is a role in IT, and his name is Brad Heschuk.

Q. Can you spell his last name for me?

A. H-e-s-c-h-u-k.

Q. Okay, so, in any event, there are some things that we need to talk about together and at least sit down and have some meetings and hopefully prioritize. We've talked a bit about the difference in the logs. We talked about how they keep current, especially with so many things going on, on the integrity management side. When a transmitter shows disparity, how far does it have to be off from one another?

A. That's a question for Bill Bock.

Q. Okay.

A. That's at the PLC level.

Q. All right, and on chattering alarms, you said that you guys can shelve an alarm, but the controllers can't, right?

A. You said shelve an alarm?

Q. Yeah.
A. That's right.
Q. Okay, so like if they were having trouble with those BFDs, then you would be able to take them and shelve them, but the controllers would they have to write that up, or would they just call you?
A. There -- it, you know, if it's 3:00 in the morning or whatever, we would get -- it's typically by phone call, but we get approval from the SCADA side and the control center side beyond just, I believe, it's Ian Milligan (ph.) that approves shelving alarms. So, the manager of the control center would approve shelving alarms, I believe, at this point.
Q. Okay. Okay, so it's not really something that a controller could expect to happen once they make the phone call?
A. Expect -- no, I mean, if they need to do it, they'll phone us. I've been called at home to disable an alarm.
Q. Okay, and can you do that remotely?
A. Yes.
Q. Okay, and I take it that -- can you tell when somebody's disabled an alarm, like does it show up on any of the operator's screens that it's disabled?
A. I don't -- we can create reports, I think, and that's something that the project team that I was telling you about is looking at as well. Some of the SCADA systems the operators can bring up a report of the disabled alarms.

Q. Okay.

MR. NICHOLSON: They don't show up as grayed out?

MR. RESCHNY: Or shelved. Well, where do you -- we don't --

MR. NICHOLSON: Oh, I guess, okay, you don't see them. Well, the point doesn't show it grayed out?

MR. RESCHNY: No, I mean, a lot of times the alarms come in disparity, or you could have both. Yeah, the --

BY MS. BUTLER:

Q. So, can someone go in and disable a pressure alarm and nobody know?

A. It'd be logged who did it.

Q. Okay, and when you say it'd be logged, do you mean it'd be logged like back in the SCADA system you could pull the report, and any of the changes that have been made since a certain date would dump?

A. That's right. It would say the name of the person that did it and how they did it.

Q. Okay, but there's nothing that the controller would physically see?

A. If they brought up their report of disabled alarms, yeah.

Q. Okay, but not all controllers can pull up those reports, right?

A. Right.

Q. Okay. Okay, I think we talked a little bit about alarm priorities and how they were defined. And that one through eight is for the entire control room, isn't it, or I misunderstood that?

A. Say that again.

Q. The alarm priorities, S-1 through S-8, is that the same for everybody in the control room?

A. Well, we're in the middle of that program of the new standards, so it's kind of half and half at the moment.

Q. Okay, and so, you said that there were on level four and up there were audibles. Is it the same audible, or is it different based on the priority?

A. I'm not sure. I know we have a feature available to make them different, but I don't know off the top of my head if they are different.

Q. Okay, that's not something the operator can select, is it?

A. No.

MR. RESCHNY: Do you remember, Curt, if they're different? Like there's a high pitch and a low pitch.

MR. GOESON: The same.

MR. RESCHNY: They're the same, okay.

MR. NICHOLSON: So, S-4 through S-8 are the same?

BY MS. BUTLER:

Q. So, I noticed like on the system alarms you don't necessarily get the priority designations beside it, is that

correct?

A. That is -- I believe that's false. I think we chopped it off. Yeah, but if you look here -- I'd have to look at that. I mean, there's some system ones where you do have the priority.

Q. Okay, well, I definitely would like to know whether the system alarms have a priority or not.

MR. PIERZINA: I thought I saw some system ones that were system or S-7's actually.

MR. NICHOLSON: Well, they don't show up on the priority on our sheet. This is what the operators would see.

MS. BUTLER: If you could look again at that event 1636.

MR. NICHOLSON: And this is what the console is seeing. There's no priority there.

MS. BUTLER: So, that would mean that --

MR. NICHOLSON: Is that really an alarm though? It's sort of a notification, isn't it?

MR. RESCHNY: Yeah.

BY MS. BUTLER:

Q. So, that would mean that the systems aren't marked, so they probably aren't audible? Is that fair?

A. I'd have to look.

Q. Okay, but when I see the word system, it does mean that the system is taking over control of something, is that a fair assessment?

A. I believe so, yes.

Q. Okay, so, conceivably, the controller could be working on something else, and a system comes in, a system alarm, because something else has kicked in like the LPM system, and they may not know it, is that right?

A. Yeah.

Q. Okay, so, they don't get the audible, and apparently, we don’t have any priorities on them. Do they go in the active queue like everybody else, or are they like treated special in some way?

A. They would go in the active. And the LPM ones where they take action are S-6, and they would be.

Q. Yeah, the initial one would -- something would have come in on the LPM, right?

A. Right.

Q. But like on the RTAP where it's too busy, nothing may have come in, is that right?

A. Right, and that's not going to affect anything the operator is doing. Like it's not going to take control of the system like you see.

Q. Correct. It's not going to take control of the system, but it could be locking up the system, right? If it's too busy, we don't really know what's going to happen. It depends on how many times that happens, right?

A. I'm just trying to think. Busy is a fairly strong word for what's happening there.

Q. Okay, well, I just said that because it was in the

alarm.

A. Right.

Q. Okay.

A. But if the system did lock up, the -- what would happen is other people controlling other lines would start getting alarms, and I can't talk to this system. Does that make sense?

Q. You're meaning like somebody say from Griffith is trying to --

A. Well, so line -- so, what's on Line 5 and 6 are on the same SCADA system, so the line --

Q. Okay, when you say that, you mean they're on the same environment?

A. Right.

Q. Is that the term you use?

A. That's right.

Q. Okay, so Line 4 might not be doing the same thing on that same console as Line 6?

A. All I'm trying to say is that, you know, the Line 5 guy would see that something is wrong with that, if it did truly lock up.

Q. Okay, so, they might be able to draw that connection, because are they always located close to each other?

A. They're in the same room.

Q. Did you always set the environments that are shared, you know, close in proximity?

A. I don't know how they set up the control center.

Q. Okay, all right, I think I remember seeing an alarm on 6-A that I didn't understand, and I just wonder if you can help me figure this one out.

A. I can try.

Q. I think it said S-4 and then it said 6, and I think it said LA-PLC1, change suction set point fail. What does that mean?

A. Change suction set point fail? So, that's 6 Laporte, I believe, and they tried to send --

Q. Okay, so that was on 6-B?

MR. JOHNSON: No, Lockport or Laporte?

MR. RESCHNY: LA is --

BY MS. BUTLER:

Q. Oh, I thought you said Laporte, sorry.

A. Yeah, it sounds like they tried to send a command, and it timed out is my guess.

Q. Okay, so, that particular reason can that be just calm alarm based, or would something else show up? Can it just be the PLC itself that's not responding?

A. Yeah, it could be.

Q. Okay, all right, so they would have to start troubleshooting something like that in a variety of ways I take it?

A. Yeah.

Q. On something like that is there any auto-retry? Do you

know?

A. Yeah, it would have auto retried, and it failed on the auto-retries.

Q. Okay, and so at that point, when they get this alarm they've got to do something, I take it?

A. Yeah, if it continues, they may -- well, I'm not an operator, but they could try resending. Other alarms will come in if it's a long duration of an outage, like a PLC fail or a communication fail.

Q. Right. How difficult is it to say if in Griffith sends a command to open a valve and the one on 6-B receives that the valve is in travel, how difficult is it to actually send that command to their queue so that they know that is what Griffith did? Is that difficult since there are two different environments?

A. I think -- the Griffith terminal?

Q. Yeah.

A. Yeah, that would take a bit of work.

Q. Can it be done?

A. I'm sure anything can be done, I guess. I mean, I wonder why you would want to do that.

Q. Well, in case they didn't actually ask for something to change, the only way that they can tell that it changed is it starts to move. And, you know, if they're busy on something else, that may not catch their attention at all.

MR. NICHOLSON: Well, don't they get that now with the injection valve? Isn't that from one environment to the other?

MS. BUTLER: They get the travel. They don't get the command that asked it to travel.

MR. NICHOLSON: Okay.

BY MS. BUTLER:

Q. So, they don't know if it's traveling because of some automated software, which on that valve there may not be any, or if it's been told to do that. So, I just wonder. I've seen people create dummy points and transfer those dummy points, and I just wondered if you guys had done that, and apparently not.

A. Yeah, we like -- I like them being fairly independent, and then you can't -- like, you could create this web of everything connected together. But I guess I would worry about reliability potential or potential reliability issues. But, I mean, if it's a requirement, I'm sure we can do so.

MR. NICHOLSON: It's not.

BY MS. BUTLER:

Q. It's definitely not a requirement. It just seems a bit odd to me that the liability issue surfaces. So, but that's neither here nor there. Okay, so, we'll just assume that you don't care to do that. All right, I think that that was pretty much my major points with the exception of two final ones that we've kind of asked of other people. But that would be on your command to alarms, when you look through a log, do you guys ever

just periodically just take a portion of a log and make sure that everything that should have had a command to have caused something in the alarm queue is actually there?

A. I mean, if we -- we get called by the operators if something just -- well, actually, I don't even know if that's even happening. But there's been times where the operators have called to verify that type of thing.

Q. Okay, so, they have called to verify it?

A. Yeah.

Q. Yeah, okay, so at least somebody thought it was wrong at some point. Okay, and what about regarding time lags? Like have you ever seen where they get a time stamp in a log, and it does not appear to get displayed at that same time?

A. Time stamp in a log and not appear?

MR. NICHOLSON: Well, that's actually what I was going to follow up on, so let's -- where are you going with that? Are you --

MS. BUTLER: Yeah, I'm done. That was the last part.

BY MR. NICHOLSON:

Q. Well, I mean, I was going to ask that question in reference to these events here, 1627 on the 25th. So, in some of the conversations we've had, it's been suggested that maybe the operator was initiating a stop command to the Marshall pump prior to it actually being sequenced off locally. And it's been suggested that maybe there was lag, and that's why this actually

shows up later, 13 seconds later. Is that possible?

A. I don't think so, no.

Q. Is there a way to validate that?

A. I mean, it gets logged as it happens, right? So, they would -- I mean, they would see --

Q. And the suggestion is that he issues a stop command, but it doesn't actually get displayed. And 13 seconds sounds like a long period of time to me. This is happening locally, right, at the station?

A. Um-hmm.

Q. Can we log that?

A. I mean, the RTUs pull the PLCs every five seconds. So, I mean, if your timing is right, this one could come in just after it pulled that register.

MS. BUTLER: So, is that time stamp from the RTU or from the SCADA system?

MR. NICHOLSON: This is basically what you pulled from that.

MR. RESCHNY: From the SCADA system, I believe.

BY MR. NICHOLSON:

Q. So, and this would have come out of SCADA, because it was initiated in SCADA?

A. Right.

Q. So, you're saying it could have a five second lag on it?

A. Yeah.

Q. Okay, but that's all.

MS. BUTLER: So, even though the shutdown is initiated by the PLC, the time stamp associated with how it appears in the alarm logger for the controller is based off of SCADA time, is that correct?

MR. RESCHNY: Right.

MS. BUTLER: And your RTUs and SCADAs -- or PLCs and SCADAs aren't time synched, are they?

MR. RESCHNY: They are.

MS. BUTLER: They are, okay.

MR. RESCHNY: The PLCs and the SCADA are time synched.

MR. PIERZINA: So, you're saying this event, the station shutting the unit off could have been five seconds earlier than this, right?

MR. RESCHNY: Yeah.

MR. PIERZINA: Okay, so if anything, it's actually a larger span and not a tighter span.

MS. BUTLER: How many times will it retry on its own?

MR. RESCHNY: I think we sent that on an IR. It's different commands have different retries.

MS. BUTLER: Okay. Well, in this case, it wasn't the result of a command. It was the result of a field action, right? So, it should have been a report by exception.

MR. RESCHNY: From RTU to SCADA, yeah.

MS. BUTLER: Yeah, so it should have tried to send it,

right? So, if it couldn't make it, how many times would that continue?

MR. RESCHNY: Well, not direction -- I would have to look. I have to check that.

MS. BUTLER: Okay, that's fine.

Matt, it's yours.

MR. NICHOLSON: Ravi, is he back?

MR. PIERZINA: No, he's on the phone.

MR. NICHOLSON: I don't really have anything else. Brian, did you have anything?

MR. PIERZINA: No.

MR. NICHOLSON: I think Ravi had a couple of questions.

MR. PIERZINA: I think he's off -- I think he was just getting a cup of coffee.

MS. BUTLER: There is one question.

BY MR. NICHOLSON:

Q. Actually, let me go back, because I did find that reference I was looking for earlier. So, when I read your datalog report for the alarms on the 25th, this line which is an LPR claim is listed as command close of delivery valve, and that's the Stockbridge valve. Is that true? Is that the command on this line?

A. No.

Q. Okay, so the explanation is wrong there?

A. Yeah.

Q. Okay, because on the 24th, I see something here for the same valve that's Stockbridge open valve. And that's -- but I don't see that at all on the 25th, and that's the closest I get with that explanation. So, that is not the command?

A. No.

Q. Okay, so, why am I missing a command on the 25th? Oh, you think it might be coming from 17 was your explanation, or the only other --

A. It was a crossover?

Q. Um-hmm.

A. That's a possibility. I mean, we'd have to look.

Q. Okay.

MR. NICHOLSON: Okay, Ravi, he's all yours if you have questions.

BY MR. CHHATRE:

Q. Okay, all right, thank you very much. I've got some three basic questions that will help me understand this. From what I understand, this printout we got is not what the operator sees on the screen. It's not everything the operator sees.

MR. RESCHNY: Is that what you just printed for us, Curt?

BY MR. CHHATRE:

Q. This is not everything the operator sees, is that correct, or am I wrong? It's pretty well the display I think you guys have on the screen, correct?

A. That is what the operator sees.

Q. Oh, this is what the operator sees?

A. For Line 6.

Q. Okay, then what are the displays the operator don't see like alarm 1, alarm 2, alarm 3?

A. They don't see this. Like within the log, they don't see a bunch of this stuff. Like this is kind of like it has the RTAP versus the SCADA database.

Q. So, what I have is not the same thing you have on the screen?

A. Well, it's the -- the tail end is the same. It's just there's some initiating initial data.

MR. NICHOLSON: What is this called you're looking at? It's the event log?

MR. RESCHNY: This is the -- we call it our log alarm is the name of the file.

MR. NICHOLSON: Log of the arms?

MR. RESCHNY: Log alarm.

MR. NICHOLSON: Log alarm, okay.

MR. RESCHNY: That's the name of the file.

BY MR. CHHATRE:

Q. And this would be called?

A. I mean, that comes from the same -- it comes -- so, I mean, yes, is up, and then the report would grab it from that file. It's just there's a bunch of stuff at the beginning.

Q. Okay, so the line items will be the same. The receiving information here would be different?

A. Yeah, there's a bunch of receiving stuff here.

Q. Okay.

MR. NICHOLSON: And the proceeding stuff tells you -- what was it you said? It's the tributes and --

MR. RESCHNY: Yeah, it's SCADA stuff.

MR. NICHOLSON: PLC?

MR. RESCHNY: Like this is an alias in our database. This is an attribute in our database. This is a, you know, type of alarm. I mean, it's stuff for a SCADA guy to track down.

BY MR. CHHATRE:

Q. (Indiscernible) last one-and-a-half hour correctly, but maybe we're programming based on the input from the engineering CCO Engineering, SCADA people and field people, and some input?

A. Picking the alarms, yeah.

Q. And including, I guess, the limits for the alarms?

A. So, the pressure limits is all set by the CCO Engineering.

Q. Okay, what about this five minute, ten minute, twenty minute? That's the standard, or you guys set those limits?

A. That's with the MBS too.

Q. Okay.

A. To us we just get an alarm from the MBS.

Q. So, what would be the input from your group on your own

in this? You guys have an independent input that you provide in setting up this software, or you guys just, you know, the coordinator of this information from different groups in developing the program? Am I confusing you?

A. No.

Q. When you said group effort, I'm just trying to find out you were the sight of the input in the process?

A. I mean, the main driver is the control center as to what they want.

Q. So, like --

A. So, they're sponsoring the alarm project and others.

Q. Okay, and I'm not familiar with this software and all exactly what you guys program, so bear with me on this one. But isn't there some industry association or somewhat of a group across the industry, an association that you guys participate?

A. So, I'm on the API (indiscernible).

Q. Okay. Okay, and so how does your alarm savings compare with the industry standard practice, regimented practice, whatever the (indiscernible) in terms of the parameters? That's what I'm interested in.

A. As far as where we're at with our alarm manager program?

Q. Actual parameters that are going in for different alarms.

A. Parameters? So, how do we compare in the industry?

Q. No, what I'm saying is I'm trying to understand when

they prepare the software, the number of inputs we are giving for this particular pipeline, how do those numbers compare with similar pipelines, I guess, industry wide? Like does all the industry go for let's say 10 percent (indiscernible) limit for low pressure or low alarm or high alarm, or is it just strictly tailor made for your pipeline?

A. I honestly don't know. And, I mean, we don't even set the limits. It's CCO Engineering. Like I don't know what -- people haven't disclosed that information as to what they set their limits.

Q. So, you wouldn't -- I guess the reason I'm asking you that, so you wouldn't give your input saying gee whiz, you're asking me to prepare these parameters for these particular users, but the industry doesn't really follow that. Their standards are more stringent or less stringent than you. They are just being too stringent in this. That kind of input you give, or you just take whatever?

A. Well, we're not responsible for setting the limits, so I --

Q. So, whatever they give, you just like include?

A. Well, I mean, the control center can set their limits without our involvement at all, right?

Q. Okay.

A. So, it goes, you know, CCO Engineering sets the limits.

Q. Okay.

A. The (indiscernible) will enable them, you know, through the SCADA system. And we're really not in that loop.

Q. So, when the alarm comes on, like in this case I guess the low pressure or pressure -- I mean, you pick any parameter you want to pick. When the alarm comes on, can the operator clear it by himself or manually can either manually override it and say well, I don't want to get into that alarm anymore? Like in this particular case, the pipeline is in shutdown mode. And if the call-up (indiscernible) keeps coming, and I'm not saying it did, but can the operator say look, I notified (indiscernible) already in shutdown mode?

A. They can't turn it off.

Q. They can't turn it off?

A. No.

Q. So, it will keep coming. They'll have to address it each time it comes on. So, it's not like they can ignore it.

A. No, we can -- like I think I answered earlier, we can shelve it with the right approvals. The SCADA group can shelve it.

MR. NICHOLSON: But shelve it only puts it aside for a finite amount of time, right?

MR. RESCHNY: Right, we would be monitoring to make sure that it gets addressed.

MR. NICHOLSON: Okay.

BY MR. CHHATRE:

Q. And you mentioned some reference around management handbook in the early part of --

A. Correct, I mean, that one about the (indiscernible) I've seen the IS-18.02.

Q. Yeah, obviously you answered the question. I was going to ask you who publishes that and how do you get --

A. Which one?

Q. I think you mentioned something about alarm management handbook.

A. Oh, that one is by PAS.

Q. Okay, and what do you guys use that handbook for?

A. It's just for me to read it. It's not -- our philosophy, I guess, is based off of some of that.

Q. In terms of setting up the limits or the program?

A. As -- no, in terms of having our alarm philosophy.

Q. Okay, that's all I wanted to know. Thank you so much for your time and patience.

A. No problem.

MR. NICHOLSON: Brian, do you have anything?

MR. PIERZINA: No.

MR. NICHOLSON: I've got a few more.

MS. BUTLER: And I have one.

BY MR. NICHOLSON:

Q. And Karen's got one. And this might not be you, but I'm going to ask you anyway. I know at the pump stations there's a

Yokagowa, right?

A. That's right.

Q. And then there's the PLC?

A. I believe so, yeah.

Q. Okay, and then the RTU?

A. Yeah.

Q. How does -- I don't understand enough. How is the device being read by the RTU and then the -- does the PLC tie into the Yokagowa, and that talks to the device, or is the signal split from the device to the Yokagowa and the PLC?

A. The RTU talks to the PLCs, and that's kind of where you need to start asking Bill Bock on how the Yokagowa communicates with the --

MR. JOHNSON: The Yokagowa is the transmitter is hard tie to the PLC, but Bill Bock can answer it better.

BY MR. NICHOLSON:

Q. The Yokagowa is just a local datalogger though, right?

A. Yeah.

Q. Okay, it's simply collecting data. It's not executing. Station shut down came out of the PLC. Okay, the -- I wanted to see -- I'm not done with the screens here. How do you get to trends? If I'm an operator, and I lose pressure at Marshall, show me how many clicks do I have to go through to get to a trend?

A. Do you want to know pressures?

Q. Well, what do they look at? First off, they're not

looking at the station screens that you've got pulled up, right? They've got something --

A. This is a line display.

Q. That's your line -- yeah, that's a line.

A. So, you can bring up --

Q. That's not even a station. That's a line.

A. Here's Griffith, right?

Q. Okay, I'm sorry. So, this is what they're mainly using here. This is their --

A. Yeah, this is kind of yeah, the overview.

Q. I thought I saw like a one line with the valves on it for the entire Line 6-B.

A. There's a valve display as well. There's two of those.

Q. Let's see those.

MR. GOESON: They operate from that display though, Matt.

BY MR. NICHOLSON:

Q. This one here? Just this table?

A. Yeah, so this might be the one you saw.

Q. Yes, that's what I'm thinking up there. I mean, those are sectionalizing valves.

A. These are the sectionalizing valves.

Q. And below that is?

A. Elevation.

Q. Elevation, okay.

A. So, if you want it to look -- there's this historical incident --

Q. So, I've got to go click on "trends." I can't just click down here on "suction at Marshall"?

A. I don’t think so.

Q. Okay.

A. So, I mean, so there's you can get real time or historical.

Q. What's historical incident?

A. So, this will get your upstream/downstream, all your suction case discharge.

Q. Okay.

A. And of course, it probably won't work up here.

Q. Well, you don't have to go all the way back to the date, but just pick a typical, if you've got it.

A. I'm guessing it won't work, just because of where we're at. But it would have your upstream station, your station you've requested, and the downstream one, and it would show all of your suction case discharge pressures for each.

Q. All three.

A. And then this piece would, you know, it would scroll through all three of them.

Q. All of them, okay. Oh, okay, for the span that you requested, for the 12 hours?

A. Right, right.

MR. GOESON: They use that in the event they're looking for triggers, Matt. It's a quick upstream/downstream.

BY MR. NICHOLSON:

Q. That's quick. What you're -- you can't really do overlays very easily though, right? So, if you wanted to drop Griffith on top of that or --

A. Oh, you can do -- you can figure historical or real time. You can pick which --

Q. You can have all seven stations on there?

A. Yeah.

Q. On top of each other and filter it by case?

A. Within one, yeah.

Q. On one plot, okay. So, it's not like a right click feature or anything? You've got to go -- there's some steps involved.

MS. BUTLER: So, Matt, could you explain back to me kind of like the key strokes involved there?

MR. NICHOLSON: Well, he's got a large menu bar at the top of the screen where he's got to click on a button that says "trends." And then from there he's got three options "real time trends," "historical trends," "historical incident" and then when he clicks on one of those buttons, he gets yet another dialog box where you enter the date essentially and the span of time you want to see and then click another button for plot.

MS. BUTLER: And then do you enter the point name of

those you want to see plotted?

MR. NICHOLSON: Well, we didn't get to an actual plot, so I don't know.

MR. RESCHNY: With the real time and historical, you will. And then with the historical incident, it's just it will give you your suction case discharge pressures automatically for the station upstream and downstream with the one you picked.

BY MR. NICHOLSON:

Q. How old is this system? When did you guys install -- it's Process or Process?

A. Process, well, it changed names. It was PCS and then Process. It's before I started here. Do you know how --

MR. GOESON: '95.

MR. NICHOLSON: '95, okay.

MR. RESCHNY: '95, is it '95?

BY MR. NICHOLSON:

Q. So, I've always got to go to "trends" and then pick something from there? I can't -- if I'm on a station drawing, I can't just select a point and get a --

A. Like the terminals have a lot of that, because they want, you know, their upstream station densities on their terminal systems. So, they just click on the density, and it'll bring up your upstream station density transmittal. I don't know, Curt, do you remember any where you -- I don't think you bring up "trends" anywhere in the main line or pipeline.

Q. What about Pie (ph.)? I know you guys use Pies interface, right? Do the operators have Pie?

A. Yeah.

Q. Okay, so, is that normally where they're going to go?

A. They can.

Q. Are they training to use Pie?

MR. GOESON: To varying degrees. The company choice is the historical information. Pie is not even a supporting application, is that fair?

MS. BUTLER: Could you repeat that? I'm sorry.

MR. RESCHNY: I'm -- there's --

MR. NICHOLSON: Speak up, guys.

MR. RESCHNY: I mean, it's supportive.

MR. GOESON: Yeah, so in analysis, we typically encourage our operators to use the SCADA system for analysis. They have Pie available, and right now, it's a neat took with different functionality, but they may use it.

BY MR. NICHOLSON:

Q. When I'm submitting an IR request to you guys, and I say I want all the discharge pressures, what am I getting, Pie?

A. It's out of here?

Q. It is out of here.

A. All the ones that I got were out of here.

Q. So, I had an issue where I asked for -- we asked for all the pressures and the maximum pressure I was seeing was 475, and

then I heard there was a 486, and then I went back and I said give me that data again. And all of the sudden, 486 appeared. What was the difference between -- am I getting the exception data when I ask for an IR request, or am I getting interpolated data?

A. It's --

MR. JOHNSTON: Which data first, maybe?

MR. NICHOLSON: I don't know.

MR. JOHNSTON: Because the best pressure data is going to come out of the Yokagowa, which would not come from --

MR. NICHOLSON: And that was one of the questions, okay.

MR. RESCHNY: Because Yokagowa would be every second.

MR. JOHNSTON: I believe that's the data you received.

MR. NICHOLSON: The 486 showed up on the Yokagowa.

MR. JOHNSTON: Bill Bock and Rob Kitchen would have pulled that together. We talked to Rob when we were down in Marshall, so he was on the phone.

MS. BUTLER: But that's not automatically stored anywhere through the SCADA system?

MR. JOHNSTON: It's backed up through -- it's onsite for five years, and it's backed up in two different locations on two different servers.

MR. NICHOLSON: Oh, you can get to it remotely. You can get to it from here, the Yokagowa? I thought you had to pull it from the station?

MR. JOHNSTON: Gordy, we could literally have Gordy

Waldren, that would be the connection I would use. He's in Bill Bock's group.

MR. NICHOLSON: Okay.

MR. JOHNSTON: He can pull that information and send it.

MR. NICHOLSON: Okay.

MR. JOHNSTON: But I think the response to the IR was that they're independent.

MR. NICHOLSON: Yeah, I remember we read that. That's right.

MS. BUTLER: So, one more time, the Yokagowa is stored, but is it sent to Pie?

MR. RESCHNY: Through the PLC and RTU, so it's at a sample rate of that five seconds within the RTU, right.

BY MR. NICHOLSON:

Q. The RTU pulls the Yokagowa every five seconds?

A. The PLC.

Q. Oh, the PLC.

A. So, Yokagowa to PLC and then PLC to --

Q. Is five?

A. No, I don't know what that part is, but RTU to PLC is every five seconds, yeah.

Q. Okay. And Yokagowa to device is every second.

MS. BUTLER: So, if I'm asking for a specific pressure, is there any time that the pressure is not going through a PLC to RTU connection, like just a pressure to valve setting that doesn't

have a station?

MR. RESCHNY: Well, if you ask for the Yokagowa, right, you'll get the directly from it.

MR. JOHNSTON: Any of the other data that we look at it is possible, because there's little peeps in there.

MR. RESCHNY: Right.

MR. JOHNSTON: Like from SCADA historicals, it's only archived on certain locations.

BY MR. NICHOLSON:

Q. But what is the exception? What is your exception rule for data?

A. What do you mean?

Q. Well, I mean, you say you're collecting it on exception. What is exception, a quarter of a percent change? A half a percent? Don't you have to set a tolerance on that? How tight is it?

A. I mean, pressures and the PLC, I believe, are integers, so it would be every change.

MS. BUTLER: Can you talk back up? Sorry, guys.

MR. RESCHNY: I believe the pressures are every change, and I believe they're integers in the PLC.

MS. BUTLER: Well, what would be the best frequency and the least frequency?

MR. RESCHNY: The best?

MR. GOESON: The best is in the Yokagowas. That's what

we use from a PHMSA standpoint for our pressure points.

MS. BUTLER: Okay, let me re-ask that question. So, in the best case scenario, I'm getting data on pressures into the SCADA system once every second? Once every five seconds?

MR. RESCHNY: Five, five.

MS. BUTLER: Okay, and in the worst case scenario, I'm getting pressures into the SCADA system how often?

MR. RESCHNY: Well, I mean, the only time that would change is if you have a communication hiccup or something.

MS. BUTLER: But we just said that while it's seeking that data, it's not going to do anything unless it's reporting by exception, right? So, if there's been no change, it just sits there, does it not? Or are you still gathering it every five seconds anyway?

MR. RESCHNY: No, so --

MR. GOESON: You're gathering it and not recording it.

BY MS. BUTLER:

Q. Okay, so are you sending out a request, and it just doesn't send anything back unless something has changed?

A. I mean, we can do full pulls if there's communication issues, or it does automatically do that. So, we will request everything.

Q. Okay, I'm not getting something.

A. Yeah, I'm not sure I'm understanding your question.

Q. Okay, so, you've got a whole packet of information in

the RTU, right? It's not just pressures.

A. Right.

Q. Okay, and so, what it's going to send back on some frequency is only those things that have changed, or it's going to send them back when they change, depending on how you set it up, right?

A. Can you say that again?

Q. Okay, so report by exception, that's how all your RTUs and PLCs are set up, is that correct?

A. Right.

Q. So, when do they send information? The way all of them are set up, when do they send it, when any point that they're pulling and passing changes?

A. So, it will send data when the register value changes or --

Q. Okay, so tell me when it will only send the information that has changed, correct?

A. Right, or when there's a communication outage. And when it reconnects, it will send everything.

Q. Okay, so conceivably, if my point has not changed, I might not see an update on pressures for how long before I would force it to give me everything?

MR. GOESON: You're seeing the pressure, because it hasn't changed.

MS. BUTLER: Well, here's the deal. On report by

exception, what are you doing to confirm that?

MR. NICHOLSON: Yeah, how do you know your value just hasn't frozen then?

MS. BUTLER: How do you know that it hasn't been forced in there by a technician because you're calibrating, and as a result of that --

MR. GOESON: Because you have two transmitters. You only test one transmitter at a time, and then you're relying on the other transmitter. So, it's not being forced in there by a technician.

MS. BUTLER: Okay, well, I think you were part of the previous conversation, right?

MR. GOESON: Yes.

MS. BUTLER: Okay, so we know that at least on one transmitter, they're forcing a value, right?

MR. GOESON: Yes.

MS. BUTLER: Okay, so the other transmitter, if it's changed, then it comes in, correct?

MR. GOESON: If it's changed -- I mean, if a pressure changed.

MR. RESCHNY: If a value changes, yeah.

MS. BUTLER: If a pressure value changes, it comes in?

MR. RESCHNY: Yeah.

MS. BUTLER: If the pressure value doesn’t change, it doesn't come in, is that correct?

MR. GOESON: It doesn't change. It's still coming in, but it doesn't change.

MS. BUTLER: No, it's not even coming in, because it's not going to pass the information unless it's changed, right? Report by exception --

MR. RESCHNY: Right, so the RTU will grab it, and then it wouldn't get passed onto SCADA.

MS. BUTLER: Right, because it's just going to sit there until something has changed. And then it will send it to you when it changes?

MR. GOESON: Yes.

MS. BUTLER: Okay, so I just wondered if there was a maximum time frame by which if it hasn't sent any data, you're going to ask it for data anyway?

MR. NICHOLSON: Like a heartbeat or something right?

MR. RESCHNY: Right, so, well, we send -- there is heartbeats in our counter in the PLC, so it does increments by a second. And that's always getting sent.

MS. BUTLER: Okay.

MR. RESCHNY: So, if that also stops, then we do the full what we call a full pull, which would grab all the data.

MS. BUTLER: Okay, so you request everything?

MR. RESCHNY: That's right.

MR. NICHOLSON: Okay, so it's if you don't get the heartbeat?

MR. RESCHNY: Yeah, there's two parts. You call it a heartbeat, or it's basically a (indiscernible) and also, our heartbeat to the PLC, right, so both ways.

MR. NICHOLSON: Okay, I see.

MR. RESCHNY: If either one fails, then we request --

MR. NICHOLSON: A full one.

BY MS. BUTLER:

Q. Okay. All right, and the heartbeats are happening no less than what, one every five seconds?

A. Well, within the PLC, it's the register, I believe, just goes up by one second increments.

Q. Okay, okay.

A. And you can confirm that with Bill, if you like.

Q. Yeah, I thought you said that previously, but then helped me again. I misunderstood you. Okay, so if I want to know what all the operator has acknowledged, you know, previously we've asked for everything from a particular console, and we seem to get pieces of things in, so if I want to be able to see the alarms and the commands and everything that's been acknowledged, how do I ask for that?

A. That's in the -- you do it in your first interview, I guess, and I think you did.

MR. NICHOLSON: Speak up a little bit. I'm sorry.

MR. RESCHNY: I believe we've sent that to you now.

BY MS. BUTLER:

Q. Okay, so you're just saying --
A. When I read one point in INA, I read it as being Line 6-B only.
Q. Okay.
A. And we've since sent more data, which is all of the console 5.
Q. But even in what I got the first time, we didn't have the acknowledgement, right?
A. I'd have to --
Q. But that commands an alarm.
MR. NICHOLSON: Which means what? If we have alarms, that means it's off the active alarm screen?
MR. RESCHNY: It'd be out of that log alarm file.
MR. NICHOLSON: Okay.
BY MS. BUTLER:
Q. So, have you sent me with the acknowledgments?
A. I can check.
Q. Thank you.
MR. NICHOLSON: So, where do the acknowledged alarms go? I guess, they don't go into that same log? You've got a separate log for acknowledged?
MR. RESCHNY: That would be a log all alarm.
MR. NICHOLSON: Oh, okay.
BY MS. BUTLER:
Q. So, when they do the acknowledge, they can acknowledge

by page, right, if I recall previous --

A. Not by page, but they can highlight a group and acknowledge the ones that they've --

Q. Okay, when I look in the file, is that going to just have all the same time and date stamp?

A. Yeah.

Q. When they've been at that way?

A. Yeah.

Q. Okay. And when they pull trends, have you ever had any problem, which some other systems have, with when you're trying to create a trend that isn't pre-done, meaning they're typing in the point name and telling you to go pull over a certain time frame, have you ever had problems with the system slowing down or locking up?

A. Not to my knowledge, no. Curt might be able to -- they don't -- they pick from a list. We haven't had issues with trends locking up.

MR. GOESON: Not to my knowledge.

MR. RESCHNY: Yeah.

MS. BUTLER: Okay, so, they can -- I noticed that the step we went through before, right, you were typing things in, and you were telling it what window, but are there pre-canned ones already done then on that third selection or whatever that was?

MR. RESCHNY: Yeah, I think that --

MR. NICHOLSON: That incident alarm, was that --

MR. RESCHNY: The incident alarms are kind of pre-canned one, yeah.

MS. BUTLER: And can you take that back in time, like pull that up and then change the window of time frame?

MR. RESCHNY: Yeah.

MS. BUTLER: Okay.

MR. NICHOLSON: How far back can I go? We had twelve hours in there.

MR. RESCHNY: I think it was days, weeks, years -- yeah, there's a year one.

MR. NICHOLSON: Yeah, but I mean, as far as what you're seeing on that window is only within so many hours, right?

MR. RESCHNY: Right, so, yeah, 24 hours.

MR. NICHOLSON: Just the 24.

MS. BUTLER: So, can they go back farther than that or not?

MR. RESCHNY: In time they, I believe, we have up to -- I think we have until 2002 online.

MS. BUTLER: Okay, so without creating a new trend, they can just keep going back?

MR. RESCHNY: I think they'd have to create a new trend.

MR. NICHOLSON: Yeah, it's once you're in the trend, I don't see any way of altering your range.

MS. BUTLER: So, you can look at a snapshot for 24 hours at a time without having to create a trend?

MR. RESCHNY: Yeah.

MS. BUTLER: So, when they check the trends on Monday morning, do they create them? Does anybody know?

MR. NICHOLSON: When Greg went to pull trends, say what would he have looked at? Because that would have been on the cusp of -- well, 24 hours you would have been within that.

MR. RESCHNY: We can ask Greg?

MR. PIERZINA: When he gets back in the country, we'll ask Greg, right?

MR. RESCHNY: Absolutely.

MR. JOHNSON: Does that do it for Les?

MS. BUTLER: For me.

MR. NICHOLSON: What's the duration -- I wasn't paying attention -- down at the bottom here, duration?

MR. RESCHNY: Which one?

MR. NICHOLSON: At the very bottom of that selection screen. Is that your minor interval, or your sampling? Well, no, that's a -- but hours how long, isn't it? You can go up to 24 hours above that. Oh, that's the timing. That's the year, month, day and hour, and then --

MR. PIERZINA: Oh, oh, I'm sorry. I thought hour was how many --

MR. NICHOLSON: So, for this one we selected two hours.

MR. PIERZINA: Oh, so it's more than 24 hours, because there's 28. So, how -- take it to its max.

MR. RESCHNY: Of course, you can't see it.
MR. NICHOLSON: Okay, so you can go up to at least two days on there.
MS. BUTLER: Okay, so are you pulling it by two hour increments or four hour or something?
MR. NICHOLSON: He's got a slider bar there. I was looking at the wrong one, and you can't read it, because there's other tags in the way. It looks like it goes well over 48 hours.
MS. BUTLER: Okay, great.
BY MR. NICHOLSON:
Q. Did you guys -- is Process just the background? You guys built all the interfaces? Is it just -- are these all custom?
A. It's all custom, built all of them.
Q. Okay.
A. RTAPs applies kind of these, you know, the widgets like buttons and stuff, and then we have to build it all.
Q. Okay.
MR. GOESON: Yeah, it's pretty much the same interface that was here in the mid '90s.
MR. RESCHNY: Yeah.
MR. GOESON: Okay.
MR. JOHNSON: You're done, Les.
MR. NICHOLSON: Okay, thanks, Les. I guess with that we'll -- oh, we've lost a couple. We'll go ahead and close things

out.

MS. BUTLER: Thank you.

MR. NICHOLSON: Thanks, Karen.

(Whereupon the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: ENBRIDGE OIL SPILL
MARSHALL, MICHIGAN
Interview of Les Reschny

DOCKET NUMBER: DCA-10-MP-007

PLACE: Edmonton, Canada

DATE: Thursday, December 16th, 2010

was held according to the record, and that this is the original, complete, true and accurate transcript which has been compared to the recording accomplished at the hearing.

_____

Debbie Mizell
Transcriber