THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

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IN THE MATTER OF THE APPLICATION BY
TRANSCANADA KEYSTONE PIPELINE, LP FOR
A PERMIT UNDER THE SOUTH DAKOTA ENERGY CONVERSION AND TRANSMISSION FACILITY ACT TO CONSTRUCT THE KEYSTONE XL PROJECT — HP09-001

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Transcript of Proceedings
November 2, 2009
Volume I, Pages 1-168

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BEFORE THE PUBLIC UTILITIES COMMISSION,
STEVE KOLBECK, VICE CHAIRMAN
GARY HANSON, COMMISSIONER

COMMISSION STAFF
John Smith
Kara Semmler
Greg Rislov
Tim Binder
Stacy Splittstoesser
Nathan Solem
Bob Knadle
Anissa Grambihler

APPEARANCES

| | |
|---|---|
| James E. Moore | appearing on behalf of the Applicant |
| Brett M. Koenecke | appearing as co-counsel on behalf of the Applicant |
| James White | appearing as co-counsel on behalf of the Applicant |
| Bill Taylor | appearing as co-counsel on behalf of the Applicant |
| Paul Blackburn | appearing on behalf of Dakota Rural Action |

Reported By Cheri McComsey Wittler, RPR, CRR



ALSO PRESENT:
Kelly Fuller, Plains Justice

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(Applicant Exhibits 1 through 17 are marked)



TRANSCRIPT OF PROCEEDINGS, held in the above-entitled matter, at the South Dakota State Capitol Building, 500 East Capitol Avenue, Pierre, South Dakota, on the 2nd day of November, 2009, commencing at 9 o'clock a.m.



COMMISSIONER KOLBECK: Good morning, everyone. I'll get the internet turned on. And welcome everyone who's on the internet. My name is Steve Kolbeck, and we will get the hearing in HP09-001 started here.

Just a housekeeping note before we start, for all of the witnesses and everyone in here you do have a little sheet by the microphone. It says, "Please turn on the microphone before you speak." You must speak close and clear in the microphone, and when you are done speaking turn it off.

There is a green light on the microphone so we don't want to delay the hearing by having to go back and repeat yourself so just make a special note of that if you're up to the microphone. Be sure it's on.

We will begin the hearing in Docket HP09-001, In the Matter of the Application by TransCanada Keystone Pipeline LP for a permit under the South Dakota Energy Conversion and Transmission Facilities Act to Construct the Keystone XL Project.

The time is approximately 9 a.m. The date is November 2, 2009. And the location of the hearing is in Room 414 in the State Capitol in Pierre, South Dakota.

As I said, I am Steve Kolbeck. And with me is Commissioner Gary Hanson. I think that Commissioner Dusty Johnson has H1N1. So he won't be able to be at the

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hearing today. He is sick. He will make it just as soon as he can. Hopefully he will be better yet today and be here tomorrow.

I am presiding over this hearing this morning. The hearing was noticed pursuant to the Commission's Order for the Notice of Hearing issued October 15, 2009. The issue at this hearing is whether TransCanada Keystone Pipeline, LP shall be given a permit to construct the Keystone crude oil pipeline in South Dakota.

It is the Applicant that has the burden of proof, and under 49-41B-22 that burden of proof is four-fold.

First, that the proposed facility will comply with all applicable laws and rules. Second, the facility will not pose a threat of serious injury to the environment nor to the social and economic condition of the inhabitants or expected inhabitants in the siting area. Third, that the facility will not substantially impair the health, safety, or welfare of the inhabitants. And, finally, that the facility will not unduly interfere with the orderly development of the region with due consideration having been given to the views of governing bodies of affected local units of government.

All parties have the right to be present and to be represented by an attorney. All persons testifying

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will be sworn in and subject to cross-examination by the parties. The Commission's final decision may be appealed by the parties to the State Circuit Court and the State Supreme Court.

John Smith, the Commission's counsel, will act as Hearing Examiner and will conduct the hearing subject to the Commission's oversight. He may provide recommended rulings on procedural and evidentiary matters. The Commission may overrule its counsel's preliminary rulings throughout the hearing. If not overruled, the preliminary rulings will become final rulings.

With that, I'll turn it over to Mr. Smith to conduct this hearing.

MR. SMITH: Thank you, Mr. Chairman. Good morning, everyone. I think we'll begin by taking the appearances of parties. And we'll begin with the Applicant, Mr. Koenecke.

Would you please introduce your team of people, at least the legal component of it.

MR. KOENECKE: Thank you, Mr. Smith. Good morning. Good morning, Commissioners and others who are present. My name is Brett Koenecke. I'm a lawyer from Pierre and representing the Applicant in this proceeding. Along with me are William G. Taylor and James Moore of

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Sioux Falls. We have a complement of Keystone witnesses seated behind me. We'll introduce them at the time it's appropriate unless the Commission would direct otherwise.

Everyone is present who has offered direct testimony with the exception of John Phillips. And he's been substituted for by Steve Hicks some time ago. That should be no surprise to any of the parties.

So everyone's here and present, and we're ready to begin at the Commission's direction.

MR. SMITH: Thank you. We'll take appearances of Interveners. I note that Dakota Rural Action is here.

Mr. Blackburn.

MR. BLACKBURN: Yeah. My name is Paul Blackburn. And I'm here with Kelly Fuller who is the Plains Justice Communication Director. And that's who we have here today with us.

MR. SMITH: Thank you. Are there any other Interveners, parties Intervener in the case who wish to appear here today?

Seeing or hearing no one, staff.

MS. SEMMLER: Thank you. This is Kara Semmler appearing for staff. I am here with other staff analysts, Tim Binder, Stacy Splittstoesser, Nathan Solem, and Bob Knadle. We do have expert witnesses also that we will introduce at the time they testify.

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MR. SMITH: Thank you. With that, are there any preliminary matters that any of the parties wish to have heard before we commence the introduction of evidence?

MR. KOENECKE: Mr. Smith, Brett Koenecke. I've provided everyone here this morning that I know of with a copy of our exhibit list, Exhibits 1 through 17. It's the Application, the updated direct, and rebuttal testimonies of our witnesses and the four data requests which we submitted to staff. We have provided those documents during the course of the proceedings to staff and to the Intervener who's present here this morning.

I've also got a copy, a complete written copy, of those documents up at the witness desk. And we would ask the parties to consider stipulating those documents into the record at this time for use by the Commissioners and by the parties during the hearing. We think doing so will greatly improve the efficiency of the hearing process this week.

MR. SMITH: Other parties' responses to Mr. Koenecke's suggestion or Motion I'll call it.

MR. BLACKBURN: DRA is willing to stipulate to those.

MR. SMITH: Staff.

MS. SEMMLER: Staff is also willing to stipulate.

MR. SMITH: Okay. Then I'm going to rule that -- and, again, as I understand it, how are they marked? TC?

MR. KOENECKE: Yes. TC-1 and then the numbers corresponding down the sheet of paper. If anyone needs more of those I've got plenty here.

MR. SMITH: I'm thereby ruling that Exhibits TC-1 through 17 are admitted per stipulation of the parties.

MR. KOENECKE: Thank you.

MR. BLACKBURN: And, Mr. Smith, I have one housekeeping matter disciplinary issue.

MR. SMITH: Please proceed.

MR. BLACKBURN: I am appearing pro hac vice and normally it requires that my co-counsel Caitlin Collier be here but she had a trial scheduled this week. At this point I've taken the oath of office, and I have paperwork to send in. But, otherwise, I'm good to go, and in order to appear technically I have to have the Commission's consent to appear without Ms. Collier.

MR. SMITH: It sounds reasonable to me. Is there objection from any of the other parties?

MR. KOENECKE: No objection.

MR. SMITH: Staff?

MS. SEMMLER: No.



MR. SMITH: Commissioners, unless you have an objection, I'm going to provide the necessary consent for Mr. Blackburn to appear without local counsel.

COMMISSIONER KOLBECK: That's fine.

MR. SMITH: Okay. So done.

MR. BLACKBURN: Thank you.

MR. SMITH: Are there any other preliminary matters to come before the Commission before we begin?

Hearing none, Mr. Kolbeck -- or Commissioner Kolbeck.

COMMISSIONER KOLBECK: I just wanted to mention that when you do speak please speak clearly and loudly. We do have a court reporter. Cheri is over here. We will be taking breaks to give her a break. We anticipate one about every hour and a half.

So kind of keep that in mind as we go through the testimony and how you lay out your case today. Thank you.

MR. SMITH: Thank you. One other thing. And maybe -- I see Anissa's walked back in the room now. In terms of these new rooms present certain challenges in terms of just testimonial logistics. And, you know, we're going to do the best we can. Usually --

The problem we usually have is a lot of times, you know, lawyers, you need to get up and walk around and



do this and that. And, Anissa, do we have this set up to where that's possible? Are those mics movable on those desks if need be?

MS. GRAMBIHLER: No.

MR. SMITH: They're not?

MS. GRAMBIHLER: No. They can just slide them side to side. That's it.

MR. SMITH: Okay. So we'll just have to do the best we can, folks. Maybe it's possible -- if you're going to question at the witness stand, perhaps we can utilize the second mic that's at the witness stand for that purpose.

And with that, Mr. Koenecke, please proceed with your direct case.

MR. KOENECKE: Thank you, Mr. Smith. The Applicant calls Robert Jones to the stand.

(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. KOENECKE:

**Q.** Good morning, Mr. Jones.

**A. Good morning, Mr. Koenecke.**

**Q.** Will you state your name and address for the record, please.

**A. My name is Robert Edward Jones. I reside at 56 Strata Crescent in Calgary, Alberta.**



**Q.** Can you tell us by whom you're employed and in what capacity?

**A. I'm employed by TransCanada Pipelines.**

**Q.** And what's your position with TransCanada Pipelines?

**A. I'm the vice president of the Keystone Pipelines.**

**Q.** Did you provide written testimony for this proceeding?

**A. Yes, I did.**

**Q.** And I've got a copy of it there in front of you to your right.

**A. I have it.**

**Q.** Marked as Exhibit 2.

**A. I have it.**

**Q.** Is that your testimony?

**A. Yes, it is.**

**Q.** Do you have any additions or corrections to that testimony?

**A. No, I do not.**

**Q.** If I asked you each of those questions this morning here at this hearing, would your answers be the same as contained therein?

**A. Yes, they would be.**

MR. KOENECKE: I have no further questions, and I pass the witness for cross-examination.

MR. SMITH: Okay. Mr. Blackburn, apparently --

MR. BLACKBURN: Just had a little water spill there.
MR. SMITH: That's okay.
MR. BLACKBURN: No questions.
MR. SMITH: Staff, questions of Mr. Jones?
MS. SEMMLER: No questions.
MR. SMITH: Well, I guess you're -- oh, Commissioners, do you have questions of Mr. Jones? Sorry.
COMMISSIONER KOLBECK: I don't at this time.
COMMISSIONER HANSON: No.
MR. SMITH: Your moment in the limelight is pretty short. You may step down.
THE WITNESS: Thank you very much.
MR. MOORE: Call Richard Gale.
(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. MOORE:

**Q.** Can you introduce yourself to the Commissioners, please.

**A. My name is Richard Gale. I'm vice president with Trow Engineering, Incorporated, which is a consultant to TransCanada Pipelines.**

**Q.** Where do you live and work?

**A. I live in Tallahassee, Florida.**



**Q.** What's your address there?

**A. Home address or work address?**

**Q.** Work address is fine.

**A. 1300 Metropolitan Boulevard, Suite 200, Tallahassee, Florida.**

**Q.** And what is your role with respect to the proposed Keystone XL Pipeline Project?

**A. I am Trow's director for the project and the environmental and regulatory manager on this project.**

**Q.** You've submitted prefiled direct testimony that is before you marked as Exhibit 3; is that correct?

**A. That is correct.**

**Q.** And do you have any changes or corrections to that testimony?

**A. No, I do not.**

**Q.** And if I asked you all of the questions that are contained in that testimony, would your answers be the same today?

**A. Yes, they would.**

MR. MOORE: I have no further questions for Mr. Gale at this time.
MR. SMITH: Mr. Blackburn.
MR. BLACKBURN: No questions.
MR. SMITH: Staff.
MS. SEMMLER: I have just a quick clarification.



CROSS-EXAMINATION

BY MS. SEMMLER:

**Q.** In a recently filed Application update the pump stations it's indicated will require some additional acreage. And if you're not the proper witness to ask, just let me know.

What's the need for that additional acreage? Why that change?

**A. Mostly I'm involved in the overall siting of the pump stations and getting the necessary information to the field when they conduct this with the landowners. But the most part of this is each one of these pump stations are site specific to the location that they're placed in.**

**And when detailed engineering takes place for the layout of the facilities based upon the location of roads, et cetera, and the way the pipeline is coming through, sometimes additional area is needed just to place all the equipment in as it needs to be from an engineering perspective.**

**Q.** So it sounds like it really was just some detail changes that have occurred as more information's available?

**A. That's correct. And to make it, you know, fit right for the pipeline and for the facility structure that**



**needs to be there.**

**Q.** Would you be the proper person to ask about permits necessary for some of the construction camp issues?

**A. No, I would not. That would be somebody later.**

**Q.** We'll wait then. Thanks.

MR. SMITH: Thank you. Any follow-up -- any Commissioner questions?
Commissioner Hanson.
COMMISSIONER HANSON: Thank you, Mr. Smith. Could you tell me -- and, likewise, I'm not certain if you're the right witness or perhaps you could just give us a flavor of information on it and another witness can give us better information later.
But can you tell us somewhat the particular challenges you were confronted with on siting for the location of properties that you were responsible for, the pump stations and such?
THE WITNESS: For the pump stations?
COMMISSIONER HANSON: Right. And I'm not particularly concerned with distance between pump stations, things like that, so much as the layout of the terrain and things of that nature.
THE WITNESS: So some of those would be constructability issues that perhaps Steve Hicks could address, but from an overall perspective you do kind of

have to start with the spacing. I mean, it all starts from a hydraulic standpoint when you're looking at pump stations and you kind of are given -- from an initial hydraulics run that's done, you're given basically you need this many pump stations and they need to be approximately this many miles apart.

So from that perspective it's initially a desktop exercise where you're given the distance and you place the pump stations accordingly. You try and place those as near to roads as you possibly can.

Once you've done that you kind of send that back and hydraulics are run again and you kind of get an idea of some flexibility that you might be able to move the pump station either upstream or downstream. So you kind of start getting fixed in somewhat to your location.

And then from that particular perspective it gets pushed down to become more of a land function in contacting landowners and trying to find an agreeable or willing landowner to place the pump stations on that particular tract of land.

Once you've done that and you've worked with the landowners, of course, you move toward a survey process. You're doing topographic survey and environmental and cultural surveys. At that particular time it's kind of when you -- and as you site that when the pipeline's come



through and you have your pump station located as near to the road as you can for access you start -- you do look at the terrain, et cetera, and how much ground you may have to move and if you'll need some additional space to lay out your equipment.

So you do -- and depending on how it fits against that road, sometimes you have to elongate the station or whatever, and you require more acreage or more area for the pump station.

So each one of these is treated independently as you look at them. It's just not a standard cookie cutter type approach that's taken. So each one is built site specific to the location they're in.

COMMISSIONER HANSON: Thank you. And how or what degree of variance do you have in distance when you're siting a pump station?

Obviously, they have to be within a certain distance of another pump station so you can maintain the proper pressure. Can you -- do you have very -- you indicated that there is a variance to an extent. Do you know I assume what that variance is?

THE WITNESS: Initially each one was different. So I can't specifically give you an exact variance for each one of them. But some of them were on the range you can move them a mile, some less. But at this particular



point in time now they're pretty much fixed locations in terms of where they need to be, but from a more detailed engineering perspective I'd have to defer that question to another witness.

COMMISSIONER HANSON: Thank you. Thank you, Mr. Smith.

MR. SMITH: Commissioner Kolbeck, any other questions?

COMMISSIONER KOLBECK: No. Actually I had the same questions as Commissioner Hanson. Maybe just one clarifying question.

You said right now you're down to pretty much site specific. Can it still move 10 feet, 20 feet? You first mentioned a mile, and now you've got to down to a smaller section.

Is that pump station when you get there -- could it still move after the backhoe's in the ground and you're putting the pipe in? Can that still move?

THE WITNESS: I guess I don't specifically understand your question.

COMMISSIONER KOLBECK: I've talked to people on the first pipeline, and they said they thought everything was going to come through, they thought everything was finalized and then some things have changed. Up until what point could it change? At any time? And then how



far could that change?

THE WITNESS: I mean, during the construction of the pipeline nothing is necessarily set until the date of construction of the pipeline's put in the ground because it's subject to the variety of factors, things that are unforeseen when you're constructing the pipeline or any other situation.

So the ability to move the pipeline is still there during the construction. We want to stay within our existing footprint to the extent that we can in terms of the survey corridor.

I mean, when you mentioned can the pump station move 10 feet here or there? The pump station itself, sure. The actual limits of what you may need to purchase can move slightly here or there. And the configuration within that as long as it hasn't been constructed is subject to slight modifications. But nothing significant at this time.

COMMISSIONER KOLBECK: Could you be a little more specific on slight modifications? Would that be 30 feet? 10 feet? Half-mile?

THE WITNESS: I don't have a specific distance. I mean, like I said, the 10 to 30 feet that you mentioned would not necessarily be a problem.

COMMISSIONER KOLBECK: Okay. But you could do

nothing without the landowner's permission; correct?
THE WITNESS: That is correct. I mean, during the acquisition process when we're purchasing pump stations and their sites we're dealing with the landowner that whole entire time to get an agreeable site on his property to purchase that pump station.
COMMISSIONER KOLBECK: All right. Thank you.
MR. SMITH: I might have one follow-up question again. Maybe I just -- there's so many bundles of testimony there. I can't remember who did what.
But in terms of the pump station -- the chart on page 102 of the Application, it lists the number of buildings within 1 mile. And generally, I mean, what we've heard in previous cases it's usually the issues with pump stations is people's -- is noise.
Is that something you dealt with, or would that be one of the other witnesses that --
THE WITNESS: The specific questions related to noise would be another witness. As far as the siting of these locations and just providing the data in terms of how far away we are from a specific receptor, we provided that information, but I'm not here to speak about the noise aspect related to the pump stations.
MR. SMITH: Okay. Maybe I'll reserve that then. And was attempting to -- within, you know, the tolerances



that you have, to locate those in such a way that you -- I guess to put it just in a -- bluntly is to get those pump stations as far away from the nearest occupied residence as you could within the physical -- you know, the physical limitations that you've got to deal with?
THE WITNESS: Yes. Specifically when we site these pump station locations we are looking for access. Access is very important to be able to get to the pump station.
But we're also very concerned in looking at how this relates to landowners and where it's located within their property and to get it to a suitable location that everyone can live with.
MR. SMITH: Okay. Thank you. Any other Commissioner questions?
Commissioner Hanson, you're studying there. Do you have any follow-up questions?
COMMISSIONER HANSON: Well, I'm glad it's on the record that I'm studying.
No. No further questions. Thank you, Mr. Smith.
MR. SMITH: Mr. Moore.
MR. MOORE: I have no follow up. Thank you.
MR. SMITH: With that, you're excused then, Mr. Gale.



MR. BLACKBURN: Mr. Chairman, I have a suggestion based on something that Mr. Smith just said, and that is that perhaps TransCanada could -- as you said, there's large numbers of witnesses, and the different evidence is bundled in different ways.
Perhaps TransCanada could describe not only -- just say the name of the exhibit but also describe briefly what the person will be testifying so that everybody could reference who this person is more complete.
MR. SMITH: That's a good idea. Normally we -- in the past we've always had at least some very brief explanation of what the scope is. And maybe that's a good idea just so we can kind of keep everybody -- keep track of everyone here.
Thank you. We'll do that.
MR. TAYLOR: Commissioners, Mr. Smith, William Taylor for TransCanada. Call Steve Hicks.
(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. TAYLOR:

**Q.** Mr. Hicks, would you state your full name and address for the record, please.

**A. My name is Steve Hicks. My address is 7505 Northwest Tiffany Springs Parkway, Suite 400,**



**Kansas City, Missouri.**

**Q.** By whom are you employed?

**A. TransCanada.**

**Q.** And will you tell the Commission, please, what your role in this project is, your title.

**A. Yes.**

**Q.** And also please tell the Commission the scope of your testimony.

**A. Okay. I am the manager for the U.S. Steele City pipeline portion of the project from the Canadian border to Steele City, Nebraska.**

**My function in this is the construction management and construction administration.**

**Q.** Mr. Hicks, you adopted the testimony of John Phillips and filed some responsive testimony of your own; is that correct?

**A. That's correct.**

**Q.** And that testimony is of record?

**A. Yes.**

**Q.** And you're also responsible for some of the exhibits contained in the Application?

**A. Yes, I am.**

MR. SMITH: Mr. Hicks, could I have you pull the mic just a little bit closer. For some reason the mics in this particular room are just not that sensitive.

Thank you very much.
**Q.** If I asked you the questions posed, would you give the same answers you gave in your prefiled testimony?
**A. Yes, I would.**
MR. TAYLOR: Surrender the witness for cross-examination.
MR. SMITH: Were you going to give -- well, did he give his little summary at all, Mr. Taylor?
**Q.** If you'd like to please Mr. Smith, Mr. Hicks, if you'll tell the Commission -- give a summary of what the testimony that you've offered is and the exhibits that you've offered.
**A. Yes. My testimony is over the construction management portion of the Steele City U.S. pipeline. That also includes construction administration. It is -- it involves the land acquisition part of the project. It involves the construction, construction techniques. It involves the soils from the standpoint of how we're going to handle it during construction and all the activities related in the construction activities and how we handle it.**
MR. SMITH: Thank you.
**A. Including the CMRP, Construction Mitigation Reclamation Plan.**
MR. TAYLOR: Now I'll surrender the witness.



MR. SMITH: Mr. Blackburn.
CROSS-EXAMINATION
BY MR. BLACKBURN:
**Q.** Just to confirm, are you in a position to testify as to the proposed schedule for the pipeline?
**A. Yes. The overall schedule, yes.**
**Q.** What is the window for start of construction for this pipeline? We understand that the general date has been in 2011. The start of construction for the northern segment?
**A. Yes.**
**Q.** What's the full window for the start of construction that TransCanada has contemplated?
**A. The window right now is to start in May of 2011. That's tentative. That depends on a number of factors, including the environmental windows, any frost laws that would be applied. But at this time it's where -- we're targeting 2011, May of 2011.**
**Q.** Has TransCanada considered a start date in 2012?
**A. No. We will start the second year -- you know, after a break in the wintertime we will start the second year of construction either in May or June of 2012. There again, that will depend on the environmental windows and when we can begin construction.**
**Q.** And that is of the northern segment from Hardisty to Steele City?
**A. Yes.**
MR. BLACKBURN: Thank you. No further questions.
MR. SMITH: Staff.
CROSS-EXAMINATION
BY MS. SEMMLER:
**Q.** I have a question specific to the construction camps. We couldn't find in your Application where you indicate how you'll be handling waste water.
What's the waste water treatment plan?
**A. Okay. The camps themselves will be all inclusive, including they will contain a waste water treatment plant for each camp and the -- that will include -- they'll be large enough to include the living quarters and the contractor yard that's associated with it.**
**Q.** What type of plants will you be looking at?
**A. I'm not sure at this time. We are actually involved in the preliminary discussions of going out for bids for the camps. We are in that process now. In that document it will contain specifications to all the sizes and types of equipment that we install in the camp.**
**Q.** Is TransCanada aware of the DENR process for waste water treatment, and are those -- those details are just still being developed or --





**A. We are undergoing -- I'm not the person to speak on the permitting process, but I do know there's a -- a lot of regulations surrounding the camp. We are aware of all of those. We are in the process of identifying and understanding what we need to do to get the permits for each and also identifying who will get the permits, whether it's TransCanada on some of them or the actual camp vendor and installation person themselves.**
MS. SEMMLER: Staff does have some questions specifically regarding the waste water treatment and a well, if it's necessary, which was indicated in the Application and who specifically we could ask about those permits as required by the State of South Dakota.
So if not this witness, I guess we'll reserve that question if those details are available at this time.
**A. Right. I will -- I can tell you that our plan is -- our first choice is to have a well on site. And as far as permitting for that, I think that would -- I would defer that process and understanding of that.**
MR. SMITH: Other questions, staff?
MS. SEMMLER: None. Thank you.
MR. SMITH: Thank you. Commissioner questions.
COMMISSIONER HANSON: Thank you, Mr. Chair -- Mr. Smith.

Mr. Hicks, could you share with us as I look at what you are responsible for here and it shows that you have 25 years of experience, it reminds me of a little sign I always kept on my desk years ago in another position I had that said "You're totally and irrevocably responsible for everything. Have a nice day."

And I look at the list of things that you have here, and it looks like you're totally and irrevocably responsible for everything.

THE WITNESS: Well, they're shared duties in this. That's the other caveat here. But I am responsible for the construction management of pieces of this testimony and also share the responsibility. There's also a cross between engineering and permitting and things like that that we work together with, but you're right.

COMMISSIONER HANSON: Certainly. Can you give us an idea of with all of the experience that you have of any unique challenges that you're confronted with with this project as it crosses South Dakota?

THE WITNESS: I think there are a number of challenges. I don't think it's anything that we haven't experienced in other areas. I think the general remoteness of the project itself is one of the challenges, one of the main challenges we have in



constructing our pipeline in -- obtaining supplies. Housing, as we've just talked about. We do have a number of different terrains that we go through. They're not unusual, but they are challenging no doubt. We have all sorts of terrains and all sorts of types.

We have agricultural land. All of those things together, like I say, it's not uncommon but they are all challenging.

COMMISSIONER HANSON: Speak to us just a little bit about the terrain challenges. And I understand there's some -- certainly some river valley type areas and crossing the rivers. I'm familiar -- I think we're all familiar with those. But there are some areas where there's some significant cliff areas it seems like would require a lot of excavation or some unique construction methods.

How do you get past -- and I know you don't go through buttes. You try to bypass them. But there are certain areas where you just have to go through some large changes in the land structure. I'm wondering if you can tell us how you go about that.

THE WITNESS: Okay. First of all, to answer the first part of your question, I think on the rivers themselves we will be using the horizontal directional drilling techniques, which is the least disturbance of



crossing streams. We've identified I think 10 areas that we're -- 10 rivers that we will horizontally drill. We're in the process at this time of working with a consultant to identify entry and exit points for that and where they would be, whether -- and taking in consideration, like you said, the cliffs, the terrain, the -- all the different aspects of that where the best entry and exit points are, the potential for any problems that we might -- we're trying to plan up front to minimize any disturbance that we could to that.

We also have buttes in the slopes that we do. Sometimes we will cut the slope to make it safe for our operations to travel up and down the pipeline right of way. After -- once we've completed the project or completed the activities through there and clean it up, we do put the land back to the contours, the original contours.

But we do try to minimize our risk in the hills by leveling -- for lack of a better term, leveling some of the contours to make it safe for passage of our equipment.

COMMISSIONER HANSON: Thank you. And you certainly can't level a cliff. You can't rebuild the cliff.

THE WITNESS: Right.



COMMISSIONER HANSON: Do you, in fact, say deconstruct or excavate a cliff so that there's an opening in that?

THE WITNESS: No, we don't. What I meant by that is we level it -- we level the surface. If it's on a slope, we level the surface, and we might have what we call a side cut to move dirt from the top to the other edge where it would be -- as we go up the hill it would be level for our equipment, and it would be safe for our equipment.

But in no means do we cut through a hill to make it level. Level to the ground. I just meant level on the -- from the standpoint of side cuts where we can go up the hill without tipping equipment.

COMMISSIONER HANSON: Thank you. So for a cliff, for instance -- and I'm asking this because at some of our public hearings -- meetings there were people who expressed that they have it on their property and were concerned, and I'm certainly curious about how -- do you bore through the tunnel -- in essence, you bore through those areas?

THE WITNESS: No, not particular. Particularly we follow the contour of the land. Depending on the cliff, it's hard to say without specifically knowing what you're talking about.

The first choice is to reroute around the area. And we are doing that now. We've temporarily -- or initially we've gone through and done our surveys. We have people on the ground now that are looking with -- working with landowners to see where the best place is to route our pipeline, and we are working on that as a first choice to reroute the pipeline.

Secondly, if we do encounter a hill, we will blade the right of way to whatever the landowner agrees to. And then we will remove portions of that hill not to level it to the ground but just to make it where it's passable for our equipment. And we will have hills on the project.

COMMISSIONER HANSON: Thank you.

Thank you, Mr. Smith.

MR. SMITH: Commissioner Kolbeck.

COMMISSIONER KOLBECK: Yeah. Of the things that you've listed in your testimony, Mr. Hicks, do you know how many of those -- your question number 7 there, for which portion of the Application are you responsible, do you know how many of those you need a permit for, an additional permit?

I would imagine --

THE WITNESS: Not off the top of my head.

COMMISSIONER KOLBECK: It kind of goes to



staff's question. Sewer or water you probably need a permit for that. Do you know how many of those items you listed you need permits for?

THE WITNESS: There are permits for a number of things. Any water body crossings we have road permits that we have to have road access to. We'll have hydrostatic testing withdrawal permits, air -- there are a lot of them there. I think the permitting side would better be answered by someone else.

COMMISSIONER KOLBECK: Okay. No problem. The other thing when we took public comment about the pipeline months ago there was concern about emergency medical services and hospitals.

Could you address some of those concerns as to what you plan -- how to mitigate those concerns.

THE WITNESS: Yes. Absolutely. One of the things that -- one of the decisions that probably was prompted by our public meetings was the institution of the camps that we had. And part of the reason for that -- there's certainly reasons.

One is the safety of our personnel in getting them to and from work every day. And, secondly, just what you're saying. At each camp we'll have a medical facility. We will have -- we will do minor injuries, and we will treat colds, cuts, bruises, things like that that



are minor in nature that would -- that is the majority of our injuries on the job.

So with that said, the other thing we will do is once we assign the contractors to the spreads and understand who will be in that area, we will identify the medical facilities that we need to contact. If it's above a minor injury, we have -- first of all, you know, I would like to say that TransCanada has a very good safety record, one of the best in the industry that we -- you know, our culture is to put safety first.

And we will have a plan that addresses each medical facility, each medical Medevac service or thereabout in proximity to the camp and proximity to our job.

So if there is by some chance a injury that requires that, our construction contractor would help develop this plan, and they would know immediately who to contact depending on the nature of the injury. But for the most part we think we will be able to handle our own day-to-day injuries that we have or small nicks and things through our camp doctor -- or not doctor but camp facility.

COMMISSIONER KOLBECK: And you do have a -- you will have a plan in place for -- if there was -- in the unfortunate incident there was a larger injury?



THE WITNESS: Absolutely. We'll identify all the services that are available and the time from each location to be able to get to that -- to aid in that injury.

COMMISSIONER KOLBECK: At any time would the local emergency medical technicians be utilized, or would TransCanada handle most of this internally?

THE WITNESS: I would say that we'll have to plan that. I don't know at this time. And if we had -- it depends on where we are and what facilities are available. It will be -- you know, we'll have to just plan it per location. And if it's -- you know, if it's two hours to the job site, we may have to call Medevac to come in. If the contractor has -- if we decide that we have our own service to transport people, you know, we would do that. But I think in most cases we would use the local facilities.

COMMISSIONER KOLBECK: And are they -- they would be aware of that?

THE WITNESS: Everyone will be aware of that. That will be in our training sessions for both our foreman and superintendents on the job. The employees will be -- go through an awareness training of what to do during the injuries. And then our contractors will each develop the plan and have a good idea of where they go,

depending on where they are on the job for medical services.

COMMISSIONER KOLBECK: How about -- I'm sorry. How about schools? Have you been in contact with them? That's one thing that you mentioned here that -- do you anticipate a large influx of students?

THE WITNESS: We don't anticipate -- very few, if any. We aren't going to allow children in the camp due to safety precautions. So we think the effect on the schools is almost nil.

COMMISSIONER KOLBECK: And then one other thing is the environmental inspection. Could you give me a little background on that, what that entails?

Is that another permit through the DENR or something else?

THE WITNESS: No. We have inspectors on the project that we'll have per spread, and we'll have at least one on each spread. A spread being a construction contract that is typically in our case 80 to 95 miles in length.

For each spread we'll have a number of environmental inspectors. Depending on the nature of that spread, they'll do things such as monitor our erosion control. They will look for -- be involved in any small spills that we have due to fuel or anything



like that. They'll monitor our fuel tanks in the storage yard to make sure the berms are able to contain any fuel spills.

They'll be on the job site looking at any environmental issues that we have, and they'll monitor the contract -- contractor.

COMMISSIONER KOLBECK: And one last question. The population and demographics, have you ever worked in this sparsely of a populated area?

THE WITNESS: Yes.

COMMISSIONER KOLBECK: So there's no additional concerns, or this isn't unique to you?

THE WITNESS: Well, part of my experience has been that I worked in a camp in Oman, in the Middle East. So that's the only thing I can relate it to.

I understand the challenges that you're facing, but, yes, it is very unique in the U.S. to have this sparse of a population.

COMMISSIONER KOLBECK: Do you anticipate any additional problems because of the sparsity?

THE WITNESS: Well, I think there's -- I don't say that I would say problems. I think there are just challenges that you have to plan for. And fortunately for us, you know, we're here at this testimony today and fortunately we have a year and a half before we start



construction.

So we have a lot of time to plan, and we're trying to take advantage of all of that time that we have to hopefully get our construction contractors under contract early where they can work with us in developing these plans because of the remoteness.

It is a challenge. It's probably our number one challenge on this project.

COMMISSIONER KOLBECK: And I would -- this is just myself speaking, but I do have some serious concerns about the emergency medical technicians and the availability of them due to the sparsely populated areas.

You're looking at towns of 2 to 300 people, and you're lucky to have maybe two or three people that are medically trained. So please pay extra close attention to that.

THE WITNESS: Yes. I understand. I was at the hearings. Although I didn't participate, I was at the open sessions. So I did hear the issues and concerns from the public.

COMMISSIONER KOLBECK: All right. Thank you. No more questions.

MR. SMITH: Okay. Thank you. It may not be the right person. It might be Mr. Schmidt or Ms. Tillquist. But on the -- you know, one of the other concerns



expressed out particularly in Buffalo if you were out there was, you know, paleontological and cultural resources.

And, you know, in terms of the on-site environmental inspector, I mean, somewhere in here I remember the reading that there was a suggestion at least maybe by the SHPO or somebody that you have someone who is an expert in that, in being able to identify strikes of either funerary objects or paleontological resources.

Would you be the person to explain what kind of training and -- you say you're going to provide environmental training to your trenchers and all of your field people. Would you be the person who could discuss that element?

THE WITNESS: Not in detail. But to tell you how we handle -- if there is a strike, we will immediately shut the work down. We will not work within 100 feet of that site.

We'll notify the landowner. We'll notify the proper authorities within the given time frame. And we will not work in that area until the time -- until we're released to go back to work.

From the aspect of what type of training, I don't know what type of training that we would give these people other than to identify when we do -- if we would

hit something like that, just to stop work and let the authorities take care of the rest of it.

MR. SMITH: And I guess my question and maybe again is just in terms of training, I mean, it hits me that, number one is if you don't know what you're looking at, you don't know you've hit it, you know. And if there was any thought about some level of awareness training or something for like the trenching operators and that so they can tell when they have encountered something.

THE WITNESS: I'm not aware of that type of training. And maybe that's something somebody can answer. But I'm not aware of that type of training that we would have.

I would like to say that we are identifying as much of our cultural resources as we can in the surveying process and trying to identify where these potential sites are and have almost completed that.

MR. SMITH: Okay. And I saw that, and I thought -- I liked that. I thought that was a good element of the plan that you're doing.

THE WITNESS: We've had monitors from the tribes with those cultural resources that have been present at that time too.

MR. SMITH: Other Commissioner questions? Follow up? Okay. In terms of the pump stations, one



last thing on the pump station locations and getting them -- I mean, goodness knows there's enough empty space out there, you know, and attempting to get them enough distance between you and residences, is that your area or is that somebody else?

THE WITNESS: No. I think from the standpoint of what you're saying is that the placement of it is the routing issue. But one of the things I would like to add to that is when we were talking about how to construct and why some need more than others, you know, the land that we acquire is not always square or rectangular or whatever so sometimes you need more space just due to some of it is not usable.

And other times there are, you know, different terrain that you can't construct on. So that's the real reason for adding additional space. All the pump stations are designed almost equally. And it's -- they're almost cookie cutter type installations.

MR. SMITH: Thanks. I think, you know, again, it usually comes up when we hear concerns or after construction complaints that -- noise is usually the issue whenever you're dealing with whatever it is we get involved in here.

And I guess that was my query as to whether you're the person to -- you know, sometimes just a fairly



minor change in location can make a huge difference in terms of whether or not somebody's going to later feel that they've been -- now had their environment changed, you know, in terms of now having to live with industrial noise.

Is that you, or is that -- okay. Okay. Thank you.

Any other Commissioner follow up?

Mr. Taylor.

MR. TAYLOR: Thank you, Mr. Smith. Just one question.

REDIRECT EXAMINATION

BY MR. TAYLOR:

**Q.** Mr. Hicks, you described what you will require contractors to do by way of provision and emergency services to take care of injuries.

What you didn't mention is that you also will require your contractor to be involved in contacts with the local emergency services and so forth and to evaluate those services and to coordinate with those service providers; right?

**A. That's right.**

**Q.** And in rural areas where you will tax or could conceivably tax local emergency services then it's the company's policy to provide its own emergency services,



transport, for example, or paramedical assistance; is that correct?

**A. That's correct. And we will outline that in our emergency medical plan that we will work with the contractors on.**

MR. TAYLOR: Thank you. That's all I have.

MR. SMITH: I think you may step down. Are there any other questions from other parties?

Thank you.

Mr. Koenecke, your team, Applicant, please all your next witness.

MR. MOORE: Call Jon Schmidt to the stand.

(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. MOORE:

**Q.** Can you state your name and work address, please.

**A. My name is Jon Schmidt. I work for Trow Engineering Consultants, 1300 Metropolitan Boulevard, Suite 200, Tallahassee, Florida.**

**Q.** What is your role with the Keystone XL Pipeline Project?

**A. I lead the environmental and regulatory portions of the project. So that would include all the permitting questions you're begging to ask, the survey, environmental surveys, pretty much the overall regulatory**

process as it relates to the DOS and federal processes as well as state processes.

Q. You've submitted prefiled direct testimony in this case that has been marked as Exhibit 4. Do you have that before you?

A. Yes.

Q. And do you have any changes or additions to that prefiled testimony?

A. No.

Q. And if you were asked all the questions that are contained in that prefiled testimony, would your answers be the same today?

A. Yes.

Q. You also filed in advance rebuttal testimony that is marked as Exhibit 5. Do you have that before you?

A. Yes.

Q. And, again, if you were asked all the questions that are contained in that rebuttal testimony, would your answers be the same today?

A. Yes.

Q. Dr. Schmidt, one of your responsibilities on the project relates to permitting. There were some questions that were asked of Mr. Hicks with respect to permitting for the waste water treatment facilities that will be associated with the camps.



Is that within your area of responsibility?

A. Yes.

Q. And could you just generally describe what steps have been taken so far to address that issue?

A. So far what we've done is we've identified the regulatory processes that may apply to the camp based on what information we know about how it's going to be designed.

At this point what we're trying to do is provide the camp vendors who will bid on the construction of the camps regulatory information on standards they have to meet in the State of South Dakota and Montana as well.

And then once we get the bids in and the successful bidder is chosen, we will work with the camp vendors to make sure that they apply for the correct permits and that they meet the standards that are set by the State of South Dakota.

So to get to the waste water treatment issue, we have to see what kind of units that they propose to bring forward in their bids. For instance, offshore oil platforms typically have a stand-alone waste water treatment plant that is built and designed to minimize emissions on offshore platforms.

We expect them to come in with some kind of concept like that where they would design a waste water treatment



facility to meet the demands of the number of people, how much water is going to be used, what kind of waste streams will be in that water.

So what we've done is we've provided them with the regulatory standards that they have to meet, and we're waiting for them to come back with the bids.

Q. There were also some questions about paleontological resources. And with respect to the survey work that has been done, could you just address in general your responsibility for that work?

A. Yes. So what we've done is we've hired contractors to go out and do cultural resource surveys under 106 with the Department of State as the lead and working with the State SHPO here in South Dakota. Those surveys are about 93 percent done on properties where we've had permission to survey.

We provided those results to the Department of State, and they work with the South Dakota SHPO to determine eligibility of sites. But in large what we try and do is avoid any site that's potentially eligible for listing under 106.

For paleontological we had a firm that specializes in those surveys also conduct surveys for paleontological resources and work with the South Dakota Museum of Geology on identifying potential sites for the surveys.



So surveys were done on state and federal land and also in Harding County on the private property by the landowners that hired their own paleontologists for those surveys.

MR. MOORE: I have no additional questions for Dr. Schmidt at this time and would tender him for cross-examination.

MR. SMITH: Thank you. Mr. Blackburn.

CROSS-EXAMINATION

BY MR. BLACKBURN:

Q. So you're familiar with all the permits required for this process in general?

A. In general, yes.

Q. I wouldn't expect that you would have all of them memorized. The permit processes for the paleontological and cultural resources are required under Section 106 which is a federal requirement; is that correct?

A. That's correct.

Q. Is there a state law that requires that kind of permit?

A. On state lands.

Q. Does the State of South Dakota have a permit process related to abandonment of pipelines?

A. I'm not aware.

Q. Does the Federal Government have a permit process

related to abandonment of pipelines on on-shore facilities?

**A. I'm aware under different regulatory regimes there's different federal agencies that have different jurisdictions. FERC has a process for FERC regulated interstate and natural gas pipelines.**

**Q.** For crude oil pipelines such as this is there a federal process related to abandonment of pipelines?

**A. I'm not aware of one off the top of my head.**

MR. BLACKBURN: Thank you. No further questions.

MR. SMITH: Staff.

MS. SEMMLER: No questions. Thank you.

MR. SMITH: Commissioners.

COMMISSIONER HANSON: Thank you, Mr. Smith.

Doctor, in your testimony you state that a Draft EIS is anticipated to be released in late summer or early fall of 2009 and that the -- in early 2010 a Final EIS is expected to be released.

Can you give us any better dates at this time?

THE WITNESS: All we know is that it will be later in 2009. It's not in our control.

COMMISSIONER HANSON: Do you have an idea if it's -- if 2010, how early we might be able to see that?

THE WITNESS: Possibly in the first half of



2010.

COMMISSIONER HANSON: Okay. Are there any significant challenges in the EIS process with this project that are not commonly found in other projects?

THE WITNESS: Well, you have -- you have challenges that are specific to the states you cross. But there have been other projects in Montana and South Dakota and these states. Nothing that we can't work through the issue with the regulators as far as I can see.

COMMISSIONER HANSON: Thank you. Thank you, Doctor.

MR. SMITH: Commissioner Kolbeck.

COMMISSIONER KOLBECK: Yeah. With regard to the permits, and you spoke about the camps, am I correct in understanding that, that it is up to the contractors to get the permits or it's up to TransCanada to get the permits?

THE WITNESS: TransCanada will oversee the permits that will be acquired. At this time I believe that TransCanada will be responsible for making sure the major federal permits are acquired.

So, for instance, there's a general construction stone water permit that's required for the pipeline right of way. The camps would be included in that. And that's



required through the State of South Dakota. It's a federal permit that's handled by the State under the NPDS program.

But the contractor will get the permits for the facilities themselves. But we're going to oversee that. TransCanada will review those permits before they were submitted. And they'll make sure that the contractor adheres to them.

COMMISSIONER KOLBECK: So under the -- hopefully unlikely situation that a permit is not required, who is in trouble? TransCanada?

THE WITNESS: Ultimately.

COMMISSIONER KOLBECK: Ultimately. Okay. You carry the burden ultimately of permitting?

THE WITNESS: That's the way I believe it stands.

COMMISSIONER KOLBECK: Okay. Mr. Blackburn's question of the remediation of a pipeline, have you ever had that occur where a pipeline had to be removed? Have you ever worked with an environment like that?

THE WITNESS: In natural gas pipelines, particularly ones built in the '30s and '40s some were taken out of service, abandoned in place. It just depends on the state and where it is and what type of regulations exist at the time that the abandonment is



contemplated.

COMMISSIONER KOLBECK: And just to keep apples to apples, have you ever done anything like that with a crude oil pipeline?

THE WITNESS: Only conversion from crude to natural gas but not abandonment.

COMMISSIONER KOLBECK: During that process was it on the federal side, or was it on the --

THE WITNESS: Federal side.

COMMISSIONER KOLBECK: It was on the federal side. Thank you.

MR. SMITH: Commissioner Hanson, any other follow up?

COMMISSIONER HANSON: Are you a mind reader? You do that well from time to time.

I did have a number of items highlighted in your testimony, Doctor. And I guess my curiosity compels me sometimes to ask questions that probably may not even be germane to what we're working on here.

In your testimony direct on item 17 you said that the pipeline right of way is in proximity to existing oil and gas wells. And apparently during construction through portions of your other testimony it does indicate that the project will -- in some way may have some impact on that process that I -- I'm concerned

a little bit with economic development up in that part of the state.

And I don't know whether or not you're the right person to ask the question of, but since it is in your testimony, can you give us somewhat of an idea of just to what extent this project would impact that economic activity?

THE WITNESS: I don't think it would impact it much at all. Because what Keystone would do is work with the lessee or the landowner who is developing that resource. And we would route the facilities to avoid impact to the existing wells.

If they have flow lines from those wells, we would have them help us identify where those are so that during construction they could be marked and avoided.

But pipelines, you can look at a map of Texas, cover the state of Texas. There's oil wells all over the place and natural gas wells. So they're real good at working with whoever has the rights to the minerals to minimize the routing of the facilities as well as the construction.

COMMISSIONER HANSON: Certainly. And on your testimony, however, a portion of it related directly to the supply of materials, construction materials and things of this nature, sand and gravel, whatever, that



the construction of the pipeline would affect.

Do you see --

THE WITNESS: We haven't identified any yet. The landowners have not identified any active sand and gravel mines.

COMMISSIONER HANSON: That's just a potential.

THE WITNESS: That's correct. So we use the geology maps to identify resources. Whether or not they're under, you know, active mining, right now there's none that we cross.

COMMISSIONER HANSON: Great. Thank you. Thank you, Doctor. Thank you, Mr. Smith.

MR. SMITH: Any other questions, Commissioner Kolbeck?

I have one. And again I'm back on the paleontological thing. And I just -- in your testimony you state, "On private lands Keystone will have paleontological monitors in areas with significant resources."

Can you please just elaborate a little on how that process will work? And maybe you can address the question I asked of Mr. Hicks about whether there will be any kind of -- or whether it's possible to do any kind of training of your field personnel to be able to rapidly identify just in the chance that a significant resource



were encountered.

THE WITNESS: So the steps that are taken, the South Dakota SHPO has recommended that we work with the Museum of Geology and Mines and identify existing sites as well as historical records. And the paleontologist also works with geologists to identify formations that may be exposed or near the surface.

And those areas would be marked on the construction alignment drawings, and a paleontological person, not an environmental inspector, but a person who's trained in paleontology and paleontology surveys would be assigned to those sections of the pipeline when they get to grading and construction.

If they identify anything, they stop the work. The landowners has the rights to those fossils. The landowner has to decide what to do with them on private property.

If it's not state property or federal property, we have to develop a plan ahead of construction with the State on how we will monitor and deal with any kind of paleontological resources that are found.

MR. SMITH: Thank you. Would you be the person to talk about noise, pump station noise, or --

THE WITNESS: Sure.

MR. SMITH: You heard my questions earlier.



THE WITNESS: Yes.

MR. SMITH: In terms of location within allowable -- you know, I realize hydraulic tolerances of the system. But could you address that, please.

THE WITNESS: I think in the Application we had a table that provided the number of structures near pump stations. At this time I don't know how many of those are habitable homes or whether they're camps for hunting or -- but I believe the nearest structure to a pump station is almost 1,350 feet in distance.

And as everybody knows, noise reduces every time you half the distance. So from 1,000 feet out to the -- or from the source to 1,000 feet you half the amount of noise that's emanated from the facility.

But Keystone has already indicated in a data response from staff that we would adhere to whatever standard that the Commission imposes on the project as far as noise standards.

MR. SMITH: Thank you. Any other Commissioner questions?

Keystone?

MR. MOORE: No additional questions. Thank you.

MR. SMITH: Any follow-up cross-examination?

Thank you, Mr. Schmidt. I think you may step down. And then I think at this point we'll take a

recess. Just to make it an even number, why don't we take a recess until 10:30.

(A short recess is taken)

MR. SMITH: With that, we'll be back in session. This is HP09-001, Application of Keystone XL Pipeline for a construction permit.

Keystone, please present your next witness.

MR. TAYLOR: Thank you, Mr. Smith. Keystone calls Meera Kothari.

(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. TAYLOR:

**Q.** Now that you're sworn, would you state your name and business address for the record, please.

**A. Meera Kothari, 450 First Street Southwest, Calgary.**

**Q.** You provided prefiled testimony and prefiled rebuttal testimony in this matter?

**A. Yes.**

**Q.** You've reviewed that testimony in anticipation of this hearing?

**A. Yes.**

**Q.** And if you were called on to give that testimony today, would your oral testimony be the same as your written testimony?

**A. Yes.**



**Q.** Will you tell the Commission, please, what your area is -- what areas you're going to address in this hearing.

**A. I'm the project engineer for the Keystone Pipeline and serving in a technical advisory capacity for the Keystone XL Pipeline, and I'd be able to speak to integrity management.**

MR. TAYLOR: Surrender the witness for cross-examination.

MR. SMITH: Mr. Blackburn.

CROSS-EXAMINATION

BY MR. BLACKBURN:

**Q.** Are you the appropriate TransCanada witness to discuss ruptures and leak from pipelines?

**A. Not specifically spills and leaks.**

MR. BLACKBURN: Thank you. No questions.

MR. SMITH: Commission staff.

MS. SEMMLER: No questions.

MR. SMITH: Commissioners. Commissioner Hanson.

COMMISSIONER HANSON: Mr. Smith, thank you.

Ms. Kothari, on your testimony you speak a little bit about pipe thickness. And that was something that we discussed at length at the Keystone hearings, and subsequently it's been discussed at a number of other locations across the state and continues to be an ongoing discussion.



In relationship to thickness alone, this is a fairly obvious answer but I'm trying to get at other things, should we as a Commission be looking at something other than just thickness of a pipe?

THE WITNESS: Well, from a thickness standpoint thicker pipe offers additional mechanical integrity from a stress allowance perspective.

For instance, we use thicker pipe on horizontal directional drills or pushing through on a road bore crossing, but from an overall safety perspective thicker pipe or thicker wall isn't in and of itself the only consideration from a safety perspective.

So, you know, the issue of thin versus thick using a .8 design factor thickness of pipe coupled with all the specific conditions that the pipeline has or the safety administration would put on the use of that in itself would allow for an as safe or safer design of the pipeline as if you were to use the standard thickness of pipe under current regulations.

COMMISSIONER HANSON: The product itself, is it the anticipation that the component, the makeup of the substance that creates the pipe, is that the top of the line, for lack of a better term, the best quality pipe that one could expect to have?

THE WITNESS: Absolutely. TransCanada undergoes



rigorous formal prequalification of all steel sources and pipe mills that would produce the pipe for the project. Prequalification, discussion with quality personnel at those facilities, as well as providing a rigorous specification that that pipe would have to be made to, whether it's chemical component as you discussed the makeup of that pipe, or the strength of that pipe.

COMMISSIONER HANSON: So speaking of the quality of the pipe -- well, strike that. I'll ask some questions pertaining to pump stations.

I'm interested in if there is a failure in some portion of the pipe, I understand from your testimony that there are seven remotely controlled valves.

THE WITNESS: That's right.

COMMISSIONER HANSON: In South Dakota. I should add.

THE WITNESS: Yes.

COMMISSIONER HANSON: How quickly do you anticipate being able to limit or to segregate a rupture or a suspected problem on the pipeline?

THE WITNESS: Typically the valve closure time is in and around 3 minutes, and that's what we've been modeling as part of our assessments. There's a specific sequence in terms of a shutdown procedure for a failure, and another witness can speak to that specific sequence

of shutdown or operating procedures during the event of a failure or any other incident.

COMMISSIONER HANSON: I have a few other questions, but I don't know if I really need to go into them, Mr. Smith, so I'll yield the floor. Thank you.

MR. SMITH: Commissioner Kolbeck.

COMMISSIONER KOLBECK: Yes, Ms. Kothari, when we were -- I think it was in Scotland we talked about the difference in pipe thicknesses in inches. I think it's easier for me to do that.

Could you tell me what the difference between X80 and X70 is in inches?

THE WITNESS: The project will use X70 pipe. So that bearing aside the difference in steel grade, if we were to be approved for the special permit, the line pipe thickness would be 0.463 inches. The standard pipe under current regulations or regulations would be 0.512 inches. Therefore, a difference of 0.05 or one-twentieth of an inch difference.

COMMISSIONER KOLBECK: Okay. On the pump stations, does that have the same metal content as what's put in the ground?

THE WITNESS: Yes. All pipe for the pipeline is made to the API 5L specification. What would vary would be the thickness. We are not intending to apply for a



special permit for the pump station facilities, the above-ground piping.

COMMISSIONER KOLBECK: Okay. In question number 12 of your direct, it says you're responsible for the PHMSA regulations governing pipeline design standards.

Could you tell us where that PHMSA process stands with you?

THE WITNESS: For the special permit?

COMMISSIONER KOLBECK: Yes.

THE WITNESS: At this point in time we've applied for the special permit. That Application was filed last year in October with PHMSA.

They are currently reviewing the Application and have posed questions back to TransCanada on specifics within that Application, and we're in the process of providing them with additional data and analysis for that Application.

COMMISSIONER KOLBECK: But as of today it's not approved; correct?

THE WITNESS: That's correct.

COMMISSIONER KOLBECK: With the operation and maintenance, would you be the correct one to talk about the SCADA system? Or I think from the other there was someone else who spoke about --

THE WITNESS: Yes. There's another witness who



would be able to address SCADA.

COMMISSIONER KOLBECK: Okay. That's all I have right now, Mr. Smith.

MR. SMITH: Did you have any follow-up questions then, Commissioner Hanson?

COMMISSIONER HANSON: Did you have one?

MR. SMITH: Mr. Rislov.

COMMISSIONER HANSON: Mr. Rislov has one.

MR. RISLOV: I'm looking at rebuttal. I think it's labeled Question 15. And that's not that important. You've talked about it in other places within your testimony. But you state, the pipeline safety factors does not decrease the result to -- or 0.8 design factor due to the manufacturing and design operational requirements.

And I thought I read earlier and I think it's in the answer of 12 that it provides a level of safety equal to or greater than that which would be provided if the pipeline were operating under existing regulations.

Are we talking about thickness at this point?

THE WITNESS: That's correct.

MR. RISLOV: Yet and if I go to 16 -- and this is confusing to me. "Does special permit apply to all areas of the pipeline?" And the answer is no, that PHMSA --



Question 16 of her rebuttal, "Does the special permit apply to all areas of the pipeline?" It's just the answer there that it doesn't apply to high consequence areas.

And I find it a little confusing if it's equal to or better than, why wouldn't that go in high consequence areas just as well? I mean, that doesn't seem to make a lot of sense to me.

THE WITNESS: It's PHMSA that will determine the applicability of which pipe goes where. So it's up to the government to determine where that would be.

MR. RISLOV: Again, it seems strange that if it's equal to or better that it would -- that they would backtrack, so to speak, my words, and go to a different -- go away from that special permit in those high consequence areas.

And I understand PHMSA sets those standards, but it's a curiosity to me. You've testified that it's equal to or better if I understand correctly.

THE WITNESS: That's right. I think where we can go with this is if we take the example of a populated area, there are certain safeguards that we need to put on our pipelines in terms of, you know, threats such as mechanical damage and such. So, you know, there are other design factors that we consider. We wouldn't use a

thin piece of pipe or a thinner wall pipe in terms of doing a horizontal directional drill under a river because the engineering stresses to conduct that wouldn't allow for so.

So the permit is designed to be used in specific areas where the design is as safe or safer than current.

MR. RISLOV: Well, let me maybe get more specific. What makes the pipe -- the thinner wall pipe safer in areas where let's say no one's at, for lack of a better term, but yet apparently less safer in so-called high consequence areas and when you're going through horizontal directional drilling holes?

THE WITNESS: Well, as I mentioned before, there are numerous conditions tied with the special permit. And so those conditions coupled with the design of the pipe materials would allow it to be as safe or safer.

MR. RISLOV: But could you be more specific?

THE WITNESS: Sure. So we look at, for instance, depth of cover or specific inspection techniques that are required, specific quality control measures that are put in place, additional surveys during integrity management during the operations of the pipeline. So all these measures coupled with the design of the steel itself would ensure that.

MR. RISLOV: And let me paraphrase, and if I get



it wrong, please correct me. If but what you're telling me is you tend to inspect the thinner wall pipe more often and thus it's safer than the thicker wall pipe? Am I misstating what I just heard?

THE WITNESS: No. We do have additional inspection requirements for the thinner wall pipe, whether it be in the pipe mill or during the operational phase of the pipeline.

MR. RISLOV: Well, I was thinking more the operational phase. I have to admit I'm still -- you know, with the testimony that it's safer, and there is testimony that says that, it still puzzles me why we would use two different pipes in different areas, a bit.

I understand your answer about the inspections. I don't know if that necessarily answers my question. But I think I probably got what I asked for. Thank you.

MR. SMITH: Commissioner Hanson, did you have some additional questions?

COMMISSIONER HANSON: I do, Mr. Smith. And thank you.

Could you help me with -- and I heard your testimony that you said that you've reviewed your testimony and that it would be substantially the same or it would be the same today.

On question 27 you said that there have been no



leaks of this type, and you're referring to the FBE, the fusion bonded epoxy. "There have been no leaks on this type of pipe installed by TransCanada with the FBE coating and cathodic protection system during that time."

And that time refers to system operation over the past 29 years, I believe. Is that still accurate?

THE WITNESS: Yes. From a corrosion standpoint that is accurate.

COMMISSIONER HANSON: I don't know -- when you qualify it in that fashion by saying from a corrosion standpoint --

THE WITNESS: So TransCanada did have an incident earlier this year where the pipeline facility was struck by lightening. And that pipeline was coated with fusion bond epoxy.

But in the context of this in terms of applying a protective layer of coating on to the pipeline to prevent external corrosion or the pipe from degrading itself, there have been no incidents.

COMMISSIONER HANSON: Okay. I appreciate the -- that's what I was alluding to and wanting to receive information on. Thank you very much.

Thank you, Mr. Smith.

MR. SMITH: Thank you. Any other follow-up questions, Commissioner Kolbeck? Do you have any?



I have a couple, Ms. Kothari. Maybe in a follow up to Mr. Rislov's question.

With respect at least to horizontal directional drilling is one of the reasons why the thicker wall pipe is used is to prevent mechanical failures due to the pipe stringing process? Is that part of it, the rigidity issue?

THE WITNESS: That is correct.

MR. SMITH: Okay. One question I have, and it's -- is in condition number 8 to the special permit deals with an excavator weighing up to 65 tons. And then in your testimony, paragraph or question 28 we talk about 51 tons.

Could you -- is that something that you could -- or have in front of you enough to be able to discuss at all?

THE WITNESS: I do have the staff data request 114 that may be better able to explain.

MR. SMITH: Okay. Yeah. Is that something I have in here somewhere? Of course, you don't know what I have in here, do you?

THE WITNESS: No.

MR. TAYLOR: Are you looking for a copy of the special permit?

MR. SMITH: I've got a copy of it. I mean, I've

got that here. I just don't know if Meera has it.
MR. TAYLOR: Ms. Kothari, do you have a copy?
THE WITNESS: I don't.
MR. TAYLOR: Here. I'll get you one.
(Attorney Taylor hands document to the witness)
MR. SMITH: Yeah. I'm just looking at number 8. I think I know the reason for that difference, but I wanted to just make sure.
MR. TAYLOR: For the record, Mr. Smith, you're looking at the 2007 special permit applicable to Keystone?
MR. SMITH: Yeah. I'm looking at what was appended to William Walsh's testimony.
MR. TAYLOR: Yes.
MR. SMITH: And it's an April 30, 2007 cover letter from Jeffrey Wiess, associate administrator pipeline safety.
THE WITNESS: Which question was it in?
MR. SMITH: Yours? It was question 28 I think in -- let me see here. On your updated.
(Witness examines document)
THE WITNESS: Okay. So in the special permit this specific 65 ton refers to the actual weight of the excavator.
MR. SMITH: That's the machine weight.



THE WITNESS: The machine. Whereas the 51 tons of force on question 28 is the actual force exerted by the excavator.
MR. SMITH: Okay. Thank you. That's what I thought. Thank you very much.
I don't have any other questions.
Other Commissioner questions?
Seeing none then, Keystone?

REDIRECT EXAMINATION

BY MR. TAYLOR:

**Q.** Ms. Kothari, the thicker walled pipe that's used in high population areas has more puncture resistance, does it not, than the thinner walled pipe?
**A. Yes.**
**Q.** And the issue of where thicker walled or thinner walled pipe will be used is a political question decided by PHMSA, is it not?
**A. It is up to PHMSA to decide that, yes.**
**Q.** So when the special permit is issued and it requires the use of thicker walled pipe, for example, in high population areas, that's because of the increased likelihood of excavation and so forth in high population areas, is it not?
**A. That's right. As I explained earlier, we need to have safeguards against the pipeline to prevent**



**mechanical damage. Areas of higher population typically increased activity, whether it's utility cable trenching or other type of work.**
**Q.** And the reason that the thicker walled pipe is used for passage underneath highways or underneath railroads or in areas where the pipe is bored and pulled back through simply has to do with retaining the mechanical integrity of the pipe after these unusual operations, does it not?
**A. Yes. It has to do with the constructability technique used or employed in that area.**
MR. TAYLOR: Thank you. That's all the questions I have.
MR. SMITH: Thank you. Are there any additional questions from Dakota Rural Action or staff?
MR. BLACKBURN: Just one question.

RECROSS-EXAMINATION

BY MR. BLACKBURN:

**Q.** The conditions that were imposed in the Keystone I special permit included a variety of things but allowed for thinner walled pipe.
Would inclusion of all of those additional things plus a thicker walled pipe make the pipeline less subject to corrosion or less subject to damage than having a thinner walled pipe?



I'm not saying equal safety. I'm asking do thicker walled pipes -- do they provide a greater level of safety?
**A. I'm sorry. Could you repeat your question?**
**Q.** Do thicker walled pipes provide a greater level of safety?
**A. No.**
**Q.** So they don't provide a greater -- so, for example, this pipe was constructed to a .5 maximum operating pressure standard, that would not be a safer pipe than having it operate at .8?
**A. No. As I mentioned before, wall thickness is not the only primary factor in terms of safety. The wall thickness has more to do with the mechanical integrity as we discussed earlier in terms of construction techniques or specific applications.**
**Safety encompasses many aspects such as inspection, quality control, integrity management, construction specifications so that all those things together would give you the safety aspect.**
**Q.** So pipe wall thickness is irrelevant to safety?
**A. It's a component of safety.**
**Q.** Right. So if a pipe wall is thicker, would the pipe be safer?
**A. No.**

**Q.** You said that PHMSA was in the process of reviewing the special permit. Are you aware that PHMSA is conducting a National Environmental Policy Act review for the special permit for Keystone XL?

**A. PHMSA is a participating agent in our national environmental policy review, yes.**

**Q.** That's not what I was asking. Is the PHMSA special permit then going to be included within the Department of State Environmental Impact Statement as a component of the review with the Environmental Impact Statement by the Department of State?

MR. TAYLOR: If you know, Ms. Kothari.

**A. I do not.**

**Q.** What we have been told by PHMSA is that they are going to perform an environmental assessment, do a separate NEPA analysis for the special permit. Are you aware of how PHMSA is planning to participate -- or planning to comply with NEPA for the special permit?

**A. No. My dealings with PHMSA have been purely on a technical basis.**

MR. BLACKBURN: Thank you.

MR. SMITH: Staff.

RECROSS-EXAMINATION

BY MS. SEMMLER:

**Q.** Just a follow-up question, Ms. Kothari. When you



say pipe thickness is just a component of strength, certainly pipe material plays a large role in that.

And as with most technologies, the steel technology and the strength of it continues to improve, I would assume. Is that an accurate statement?

**A. Yes. That's an accurate statement.**

**Q.** So the type of steel being used is an important component when determining strength; correct?

**A. That's correct. Line pipe steel is a different type of makeup chemically and strengthwise than what's used for other applications in different industries.**

**Q.** And the special permit, the waiver, the pipe thickness waiver, based on all those considerations has become very common practice with PHMSA in their natural gas segment of their work, for example?

**A. That's right. PHMSA did pass a regulation allowing for the thinner pipe for natural gas systems last year.**

**Q.** And PHMSA looks at changing regulations through a rule-making process similar to any other government agency; is that correct?

**A. That is correct.**

**Q.** So opposition to this sort of PHMSA regulatory decisions could be handled through PHMSA, communications with PHMSA and a requested rule making?

**A. Yes. There is a public comment period typically**



**when these types of rule making processes occur.**

MS. SEMMLER: Thank you.

MR. SMITH: Keystone, any follow up?

MR. TAYLOR: No further questions.

MR. SMITH: Okay. Thank you, Ms. Kothari. You may be excused.

Mr. Koenecke.

MR. KOENECKE: Mr. Smith, Keystone would call Donald M. Scott to the stand.

(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. KOENECKE:

**Q.** Good morning, Mr. Scott.

**A. Morning.**

**Q.** Would you introduce yourself to the Commissioners and attendees, please.

**A. My name is Donald M. Scott -- Malcolm Scott. My business address is 450 First Street Southwest -- oh, I thought it was on.**

MR. SMITH: Maybe start over again.

**A. My name is Donald Malcolm Scott. My business address is 450 First Street Southwest, Calgary, Alberta.**

**Q.** Mr. Scott, are you an employee of Keystone or a contractor?

**A. I'm a contractor.**



**Q.** What's your specific area of expertise?

**A. I have answered questions and have expertise in the leak detection modeling simulation trainers and in SCADA systems.**

**Q.** Mr. Scott, I've put before you a document we've marked as Exhibit 10. Do you see that there to your right?

**A. Yes.**

**Q.** Is that the written testimony you filed in this proceeding?

**A. Yes, it is.**

**Q.** If I asked you all those questions here this morning, would your answers be the same as they are?

**A. Yes, they would be.**

**Q.** Do you have any additions or corrections to that testimony?

**A. No, I don't.**

MR. KOENECKE: I have nothing further at this time, Mr. Smith.

MR. SMITH: Thank you. Dakota Rural Action.

CROSS-EXAMINATION

BY MR. BLACKBURN:

**Q.** Mr. Smith (sic), are you the appropriate witness to ask about the extent of the results and impacts of leaks and spills?

**A. The results and impacts of leaks and spills, no. I don't think so. I could talk a little bit about leaks and spills, but the results and impacts I don't think I could cover that.**

**Q.** Are you aware of whether TransCanada's performed any studies that analyze what the spray zone would be for this pipeline should a major rupture occur, for example, a rupture that would result in a worst-case spill scenario or complete rupture of the pipeline? So we understand that the oil would be under pressure and would spray out. Are you aware if TransCanada has performed a study to determine how far the oil would spray or where the spray zone would be?

**A. I don't think there's been any studies involved. Most of the pipe, of course is underground so spray is not normally an issue. Spray would only be an issue on above-ground sections.**

**Q.** So in a --

**A. And it wouldn't normally happen in a rupture. It would happen with a smaller leak, as far as I know.**

**Q.** So in a rupture, for example, do you know what the worst-case spill scenario is for this pipeline?

**A. I haven't done the calculations for that. Somebody else has done the calculations, and they can present that if you bring that question up later.**



**Q.** Uh-huh. And do you know what the Order of magnitude for the worst-case spill would be?

**A. Order of magnitude, you'll have to -- could you flesh that out a little more?**

**Q.** Thousands of barrels, the tens of thousands of barrels?

**A. It's in the thousands of barrels range, yes, worst case.**

**Q.** So in the worst-case spill scenario you're saying that oil would stay underground?

**A. No. I'm not saying it would stay underground. I'm saying I don't think it would spray. It would leak underground, come up and bubble up, probably.**

**Q.** Bubble up?

**A. Well, rise to the surface and --**

**Q.** Slowly?

**A. Again, it's very theoretical, very hypothetical because it depends on what you classify as a rupture and what the pressure would be at that time, whether it's during the pumping operation or when the line is shut down and it's running out strictly due to gravity.**

**Q.** Have you calculated the speed of emission of the oil under different pressures for this pipeline?

**A. The speed of emission? Could you --**

**Q.** In a rupture the oil would come out of the pipeline; that's correct?



**A. Yes.**

**Q.** And the oil would come out at a rate of flow from that rupture depending on the size of the rupture and the pressure of the pipeline. That's correct?

**A. That's correct, yes.**

**Q.** Have you calculated the speed that the oil would flow out of the pipeline at different size holes or ruptures in the pipeline?

**A. No.**

**Q.** So you're not aware of how fast the oil would come out of the pipeline given different size holes in the pipeline?

**A. No.**

**Q.** So you don't know the force because you -- the force is mass times velocity; that's correct?

**A. Yes.**

**Q.** So you have not calculated the force at which the oil would come out of the pipeline either?

**A. I can't answer your question.**

MR. KOENECKE: Mr. Smith, we've gone a long ways down a line of questioning that I don't believe this witness was initially prepared to answer. His expertise is in SCADA system and pipeline operations.

We have other witnesses to answer the kind of



questions that Mr. Blackburn's asking.

MR. BLACKBURN: And just to let you know, not knowing exactly who's going to testify to what, I just wanted to know. If he doesn't have answers to those questions, that's a good thing to know.

THE WITNESS: Yeah. I don't think I can answer your questions for what you're looking for.

MR. BLACKBURN: Thank you.

MR. SMITH: Is that all the questions you have, Mr. Blackburn?

MR. BLACKBURN: Yes. Thank you.

MR. SMITH: Okay. Ms. Semmler.

MS. SEMMLER: We have no questions regarding the SCADA system.

MR. SMITH: Commissioners, do you have questions?

COMMISSIONER KOLBECK: Yes.

Mr. Scott, according to your testimony, the SCADA system is the system that's going to monitor if the pipeline's constructed all the way from Hardisty to where?

THE WITNESS: To end of the line.

COMMISSIONER KOLBECK: All the way. Even if there's multiple ends of that line?

THE WITNESS: Yes. Definitely.

COMMISSIONER KOLBECK: And how long does that take to get a reading that something is wrong?

THE WITNESS: To gather all the information? Right now we're looking at less than 10 seconds.

COMMISSIONER KOLBECK: And then after that 10 seconds is there someone monitoring this 24 hours a day?

THE WITNESS: Yes, there is. There's controllers that are monitoring 24 hours a day.

COMMISSIONER KOLBECK: Where?

THE WITNESS: In the Calgary Control Center.

MR. SMITH: Can you pull that mic in, Mr. Scott? Just a little bit. Thank you.

COMMISSIONER KOLBECK: So what if something happened at that center? Is there a backup?

THE WITNESS: There is a backup center which is approximately 30 miles from the main control center. And it's a full, complete replica of the primary control center.

COMMISSIONER KOLBECK: If something happened, is the SCADA system the only way to know, or is there other -- is there other testing that is done on the line other than the SCADA system to determine if there's oil missing at the other end?

THE WITNESS: There -- there's a number of leak



detection systems in use. I think we've outlined the four of them. And for the most part most of them are immediate or almost realtime systems.

The last system we talk about is a volume balance system which is done over a longer length of time. So it becomes what we call nonrealtime. And I think we've decided that the minimum window will be two hours. So that will be done every two hours. There will be an inventory run-up on the system.

And some of that information does come from SCADA. And then there will be different time windows, again, to take a look at the inventory of the system.

COMMISSIONER KOLBECK: As far as the reliability aspect of it, do you have any numbers that say that our SCADA system's -- 99.9 percent of the time it's up or 100 percent? Do you have any -- any information on how often the SCADA system is down?

THE WITNESS: No, I don't. Based on past experience, we used to talk about three 9s of .999 reliability. But that was before a lot people put in backup systems.

And now there's usually a primary system for communication. And communication is normally -- your SCADA systems are just 100 percent reliable. But the communication is where you may have an issue.



And most companies now have put in a backup communication system so the reliability I'd say virtually 100 percent.

COMMISSIONER KOLBECK: Let's talk about that communication system, sir.

Do you lease to fiber facilities or copper facilities? How do you get back to Canada?

THE WITNESS: The primary system is a satellite system. Backup systems are usually phone systems.

COMMISSIONER KOLBECK: And both of these systems are in place at the same time, or is there some sort of switch over?

THE WITNESS: One is a primary. One is a backup. If one fails or is unable to perform it's function, then the backup takes over.

COMMISSIONER KOLBECK: Okay. So it's 100 percent redundancy. It's not necessarily we can go to this if something happens? They both work at the same time all the time?

THE WITNESS: You can't have one fighting the other. But, yes, one will be primary, one will be secondary, and, yes, they'll take over in the case it's lost.

COMMISSIONER KOLBECK: Okay. That's an automatic process it takes over?



THE WITNESS: Yes.

COMMISSIONER KOLBECK: Have you ever -- if this isn't something that you want to answer, that's fine. But have you ever in your experience with a SCADA system had a leak that lasted more than -- well, first of all, have you ever had a leak?

THE WITNESS: I've heard of some.

COMMISSIONER KOLBECK: Okay. Have you ever heard of one that lasted eight days or 10 days?

THE WITNESS: The problem is you don't necessarily know when it initiates when it's a very small leak lasting a long time. But I think I've heard of some that have been very small leaks that have lasted for a while, yeah.

COMMISSIONER KOLBECK: A while meaning weeks, days, months?

THE WITNESS: Well, probably a few days maybe seven, eight days, something like that.

COMMISSIONER KOLBECK: Is that something a SCADA system would catch or something a different test --

THE WITNESS: Unlikely a SCADA system would detect it. It's below the threshold of detectability.

COMMISSIONER KOLBECK: What's the threshold of detectability?

THE WITNESS: Detectability for the realtime

system, which is the one I think you're probably thinking about, it's a window-based thing. So there's a short period of time where it will find larger leaks. As you wait a longer period of time it will find smaller leaks.

So we used to look at -- in the industry we used to say we'll use one hour as kind of a benchmark. Although you'll do it in 5 minutes, typically 20 minutes, one hour, two hours. Some people do it 24 hours.

So let's just use the one hour one. So typically the threshold on one hour is going to be around about 1 percent.

COMMISSIONER KOLBECK: 1 percent of the total volume from Canada to --

THE WITNESS: 1 percent of the flow rate in that.

COMMISSIONER KOLBECK: 1 percent of the flow rate. Okay. So not necessarily 1 percent of everything that's in that pipeline at any given moment.

THE WITNESS: No.

COMMISSIONER KOLBECK: Okay. So we're talking -- so that would be a measure from what's going in to what's coming out, a 1 percent difference; is that correct?

THE WITNESS: Yes.

COMMISSIONER KOLBECK: Okay. And that's



immediately known -- well, I shouldn't say -- within an hour?

THE WITNESS: Within an hour, yeah.

COMMISSIONER KOLBECK: What's the likelihood of an event, any event, going on for days? Any event of loss of product going on for days and days?

THE WITNESS: I couldn't speak about the likelihood of that. Yeah.

COMMISSIONER KOLBECK: Okay. No problem.

Have you ever heard of anything better than a SCADA system? If I wanted to make this the best, is the SCADA the ultimate use of technology today, or is there anything else out there that's available?

THE WITNESS: No. I don't know of anything in a realtime basis which is better than a SCADA system.

COMMISSIONER KOLBECK: Okay. Do you know of anything that would be better than satellite communications?

THE WITNESS: Satellite communications right now is state of the art.

COMMISSIONER KOLBECK: Okay. Would you rate satellite communications better than landline fiberoptic communications?

THE WITNESS: Yes. I think so. Yeah. I would. Yeah. Fiberoptics if it's a dedicated fiberoptics, then



you're talking a different situation. But I only know of one pipeline that has a dedicated system.

COMMISSIONER KOLBECK: That would probably be -- in all reality that's not a likelihood.

THE WITNESS: No.

COMMISSIONER KOLBECK: Dedicated fiber, that's just probably not going to happen.

THE WITNESS: No.

COMMISSIONER KOLBECK: Who is the satellite companies that do this? Is it Newstar? Whose satellites are they?

THE WITNESS: I don't have that in my information here.

COMMISSIONER KOLBECK: Okay. Are they an established company around for years?

THE WITNESS: Oh, yes. Definitely.

COMMISSIONER KOLBECK: Okay. Because obviously you don't just jump on someone's satellite.

THE WITNESS: We don't want to be a data site for somebody coming in --

COMMISSIONER KOLBECK: You're not a bigger tester --

THE WITNESS: Not recommended.

COMMISSIONER KOLBECK: It's a well established company.



THE WITNESS: Yes.

COMMISSIONER KOLBECK: That's all I have, Mr. Smith. Thank you.

MR. SMITH: Other Commissioner questions?

Mr. Rislov, do you have a question?

MR. RISLOV: I was just curious. Have you ever sat in a room and monitored a SCADA system before?

THE WITNESS: As an actual controller?

MR. RISLOV: Yes.

THE WITNESS: No. I haven't done that. I haven't been trained to do that. And it's a very specific job. It requires a lot of training.

I've sat in the control center a number of times and watched what they do but not -- I wouldn't operate a pipeline, no.

MR. RISLOV: Okay. Thank you.

MR. SMITH: Other Commissioner questions?

Mr. Scott, you're probably not the person but would you be a person who could answer any questions on any recent developments in remote sensing technology such as could be maybe used in connection with aerial reconnaissance, that kind of thing?

THE WITNESS: A little bit. I've been involved in that, yes.

MR. SMITH: Could you please go into that a

little bit maybe. I know we've done some looking here at the PUC at developments that have been occurring, you know, in Texas in the Houston port area, et cetera. And I know they've had some pretty good success with aerial surveys in the gas area. But I guess I don't know in terms of liquids, you know.

THE WITNESS: And it's quite -- it's fairly similar. The current -- well, we'll go back just a little bit.

The first type of remote sensing system that people tried to use was infrared. It had a bunch of issues. And then various people come up with systems for trying to sense products that would be coming out. For example, methane. That didn't work very well.

Right now there is a company, and TransCanada's looked at it. I wasn't involved in the actual investigation with these people, but they look at finding ethane coming -- because it's nonnaturally occurring. And they use a remote sensing system, aerial attached to a plane or helicopter and looked for ethane in the area.

MR. SMITH: And it has shown to be an effective mechanism for -- and, again, I think what I'm getting at here again with the SCADA when you're below that minimum detection threshold and inspections are going on -- I'm correct too that visual inspection is another means of



detection of leaks; is that --

THE WITNESS: Of course it is. Yes. It is --

MR. SMITH: At this point in time are those kind of remote sensing technologies at the stage where they would be a useful thing to use in connection with aerial reconnaissance?

THE WITNESS: I don't think so. I think they're coming along. We're taking a look at. It a lot of other companies are taking a look at it. And we'll see where it goes.

MR. SMITH: Okay. Thank you.

Any other follow-up questions, Commissioners?

COMMISSIONER KOLBECK: I just have one. If the pipeline was approved and constructed, would any -- what is the likelihood that the monitoring equipment that we would approve would change? When is the last time TransCanada changed how they monitored one of their pipelines?

THE WITNESS: I'm not clear on your question.

COMMISSIONER KOLBECK: I guess what I'm getting at is what is the likelihood the technology will change, and how fast does it change? In other words, if you monitor with one type of equipment today, how likely is it that that type of equipment will be used in five years?



THE WITNESS: Are you talking maybe the SCADA system here?

COMMISSIONER KOLBECK: The SCADA system, yes.

THE WITNESS: Typically with the software system they come up with upgrades, they come out with improvements, and at some point in the future the company takes a look at deciding whether they'll go with the new version because it offers some advantages. And that's five, 10 years.

COMMISSIONER KOLBECK: So software upgrades would be the majority of the change in a SCADA system; correct?

THE WITNESS: Yes.

COMMISSIONER KOLBECK: Is there a likelihood that the SCADA system would be abandoned and some other way would be used to monitor pipelines?

THE WITNESS: No. I don't -- I couldn't see a SCADA system being abandoned. It's possible that somebody comes out with a new SCADA system which is an improvement, and then you would switch over to the new people. That's -- I don't know of anything happening there right now.

COMMISSIONER KOLBECK: But in a sense if we approved a SCADA system to monitor a pipeline, it would in all likelihood always be a SCADA system, maybe



different software, maybe different people but that --

THE WITNESS: That's where the technology is going and staying, yes.

COMMISSIONER KOLBECK: Okay. So I can feel comfortable if we approve this that SCADA is the way it will probably be monitored through its lifetime?

Maybe different software, maybe different people, different vendors, but that --

THE WITNESS: That would be the techniques used, yes.

COMMISSIONER KOLBECK: Okay. Thank you.

MR. SMITH: Any follow-up questions, Commissioner Hanson?

COMMISSIONER HANSON: No. Thank you, Mr. Smith.

MR. SMITH: Okay. Mr. Koenecke.

MR. KOENECKE: Thank you, Mr. Smith.

REDIRECT EXAMINATION

BY MR. KOENECKE:

**Q.** Mr. Scott, I'm looking at your testimony, and the first question 8 describes several methods of -- you describe them as complimentary leak detection methods; is that correct?

**A. Yes.**

**Q.** Could you describe those for the Commissioners?

**A. Well, what we've -- well, what we've proposed or**

**what we're going to is four different types of leak detention systems. I have some here, I think a better explanation.**

**And the first one is what we call SCADA monitoring. This is what we talk about somebody sitting in front of the console controlling the system, watching it 24 hours a day.**

**There we are. There we are. I've got it. Just in case I need additional technical detail.**

**So it's a 24-hour operation. The controllers watch the system. They look for anomalies. If things aren't quite right, they investigate. They make a decision on what changes they have to make. That's our first type of system, primary. It finds fairly large leaks, but it finds -- fairly large leaks can be seen and quite quickly.**

**The second type is what we call a volume balance system. Really that is calculating the volume flow at the various pump stations and in and out of the pipeline. And we use meters in/meters out.**

**And we've also with the Keystone -- and it will be the same with the KXL. We're putting in meters at every pump station. So we've effectively broken the system up into a bunch of small pipelines. And that again is computerized, automated type of system.**



**What we've called our third system is the realtime system. This is the one that will in five minutes or -- I think we're going to use 2 minutes, but again this is somewhat flexible. We'll actually do an inventory calculation of the pipeline on these sections, and we'll find large leaks quickly and over time smaller leaks. And that's our tal -- realtime transient model.**

**And the last system we talked about a little bit earlier is an inventory system which will probably be at a two-hour period we'll do a complete inventory of the system, and we'll do it on a daily basis, weekly, and probably monthly. And again take a look at the inventory of the system and make sure there's nothing missing.**

**Q.** Mr. Scott, what role do direct observation methods play in your operation of the pipeline as far as finding leaks?

**A. Of course, that's outside of a computerized-based system. And it is a system where we use aerial patrol approximately every two weeks on the line. And the people who are doing the aerial patrol are trained in what to look for along the line which could be indicators of leaks or potential issues with the pipeline.**

**We also use any staff that are along the pipeline. When they're going from a pump station to pump station to**



**do maintenance it's expected they'll take a look, see what things look like see if there's any issues, if there's any evidence of leaks. That's part of their role. If they're traveling, they might as well make use of their time.**

**And the third one is what we call third-party reporting. And that's where somebody along the pipeline may notice something, may smell something, or see something. And we have toll-free numbers where they call into the control center, and then we take action from there.**

MR. KOENECKE: I have nothing further, Mr. Smith. Thank you.

MR. SMITH: Thank you. Are there any follow-up questions from staff or Interveners?

MS. SEMMLER: I have one follow up.

RECROSS-EXAMINATION

BY MS. SEMMLER:

**Q.** While it certainly is the goal and priority of the company to operate and construct a very safe pipeline, the SCADA system is designed to comply with 49 CFR 195; is that correct?

**A. I'm not sure if 49.195 specifies that you have to use a SCADA system. I can't recall anywhere in that that it actually says you have to do that. I think it's just**



**an industry standard.**

**Q.** Well, I'm also looking at the special permit. And it appears as if there's several pages of some requirements regarding what it look like. Is that correct?

**A. That's very definite. Special permit or any of the permits -- you make commitments that you'll put a SCADA system in.**

**Another example is 195 does not require a leak detection system. It says if you have one, you're supposed to meet certain requirement. But it doesn't require you to have one.**

**But in the special permit, which is specific to the pipeline, yes, we made a commitment, and we are required to have a leak detection system.**

**Q.** Part 195 does, however, require that the pipeline be operated in a safe fashion, and this would be the state-of-the-art way to operate in such a safe manner?

**A. That's correct, yes.**

MS. SEMMLER: Nothing further.

MR. SMITH: Do you have any follow-up, Mr. Koenecke?

MR. KOENECKE: No, Mr. Smith. Thank you.

MR. SMITH: Okay. Thank you, Mr. Scott. You may step down.

What's your pleasure, Mr. Koenecke? Do you want to proceed with one additional witness before noon?

MR. KOENECKE: Yes, we would. Thank you. We'd call John Hayes, please.

(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. KOENECKE:

**Q.** Good morning, Mr. Hayes.

**A. Good morning, Mr. Koenecke.**

**Q.** Would you state your name and business address for the record, please.

**A. John William Hayes, H-A-Y-E-S. Business address, 450 First Street Southwest, Calgary, Alberta.**

**Q.** Mr. Hayes, what's your role with the Keystone Pipeline?

**A. My role is to testify on behalf of KXL on emergency response and other operational matters.**

**Q.** Do you have a title?

**A. Yes. My title is operations manager.**

**Q.** Are you responsible for the creation of the Keystone Emergency Response Plan?

**A. Yes, I am.**

**Q.** Did you prepare written testimony for this proceeding?

**A. Yes, I did.**



**Q.** I put a copy of that in front of you marked as Exhibit 11. Have you got that?

**A. Yes, I do.**

**Q.** Do you have any additions or corrections to that testimony?

**A. Yes. There's one minor change that we should probably address. And that is item number 9. And that change would be on the answer that should be Table 6 instead of Table 4.**

**Q.** If I understood you correctly, in question 9 of your testimony your answer where it references Table 4 should be changed to read Table 6?

**A. That is correct.**

**Q.** Thank you. Any other additions or corrections?

**A. No.**

**Q.** If I asked you the questions in your updated direct testimony marked as Exhibit 11, would your answers be the same?

**A. Yes, they would.**

MR. KOENECKE: Nothing further at this time, Mr. Smith. Thank you.

MR. SMITH: Thank you. Mr. Blackburn.

CROSS-EXAMINATION

BY MR. BLACKBURN:

**Q.** Mr. Hayes, does South Dakota Law require an



Emergency Response Plan?

**A. Yes, they do.**

**Q.** Does federal law require an Emergency Response Plan?

**A. Yes.**

**Q.** Assuming that TransCanada does not create a Emergency Response Plan in one day, how far before the start of the operation or construction does TransCanada have a draft of the Emergency Response Plan for its internal review?

**A. So, Mr. Blackburn, typically what I do is I allow about 18 months through the whole process, meaning about six months to actually prepare the plan. Because 80 percent of our base Keystone plan applies to KXL. And then we have a six-month period where we do send that to PHMSA, and I allow six months before operations where we have the plan ready.**

**Q.** So just to be clear, you create a draft plan about 18 months before operation, and then it goes to PHMSA for -- well, just to be clear, you start your process 18 months before you start operations?

**A. That's correct.**

**Q.** And then about six months after you start the process of preparing the plan you have a draft plan that is sent to PHMSA?

**A. That's correct.**



**Q.** And then PHMSA has about six months to review it?

**A. Yes.**

**Q.** And then you would have about -- when they get back to you with comments or whatever else they're going to send you, you would have another six months before operations to incorporate whatever comments they had?

**A. Yes. And hopefully PHMSA, they typically don't take that long, but that's the time lines that I like to work with.**

**Q.** Given that time line, when do you expect to have a Draft Emergency Response Plan available for the Keystone XL Pipeline?

**A. Probably by July 1 of 2010.**

MR. BLACKBURN: That's all the questions I have. Thank you.

THE WITNESS: Thank you.

MR. SMITH: Ms. Semmler.

MS. SEMMLER: No questions.

MR. SMITH: Thank you. Commissioners. Questions of Mr. Hayes?

Commissioner Kolbeck.

COMMISSIONER KOLBECK: Yes. Mr. Hayes, you said it is a South Dakota Law to have an environmental impact study.

THE WITNESS: That's what my lawyers have

advised me. And it's the Emergency Response Plan.
COMMISSIONER KOLBECK: I'm sorry.
THE WITNESS: Yes.
COMMISSIONER KOLBECK: Do you need both of those -- would you need a permit from the Public Utilities Commission and an Emergency Response Plan before you could send anything through the pipeline?
THE WITNESS: We have to have a PHMSA-approved plan, and that's our regulatory body that we send the plan to.
COMMISSIONER KOLBECK: Regardless -- two things have to happen; is that correct? Not just one. You'd have to get a permit from us, and you'd have to have that Emergency Response Plan filed; is that correct?
THE WITNESS: That's my understanding. Correct.
COMMISSIONER KOLBECK: Who do you file that with?
THE WITNESS: File it with PHMSA.
COMMISSIONER KOLBECK: Okay. With PHMSA.
THE WITNESS: Yes.
COMMISSIONER KOLBECK: For each state that you go through.
THE WITNESS: It's one plan for the entire KXL project.
COMMISSIONER KOLBECK: The entire plan.



THE WITNESS: Yes.
COMMISSIONER KOLBECK: Okay. In your testimony you're in charge of abnormal operations. Could you clarify what an abnormal operation would be?
THE WITNESS: My testimony is abnormal operations as they apply to emergency response. So my testimony is restricted to once the oil is out to the remediation phase.
COMMISSIONER KOLBECK: Okay. And on our previous -- Mr. Scott, he had testified also. Do you know how long it takes from Mr. Scott's department to tell you that there's a problem until you respond?
THE WITNESS: I think Mr. Scott characterized it pretty good. Every spill situation is extremely unique. And we do have the state-of-the-art leak detection technology that he described. And I believe Ms. Tillquist has some API stats that determine how fast leaks are typically detected.
But in all cases our number one priority is public safety. And we usually detect leaks pretty quick, and we usually respond very quick as well. We have a six-hour response time.
COMMISSIONER KOLBECK: Six-hour response time?
TH WITNESS: Correct.
COMMISSIONER KOLBECK: Could you elaborate on



that? Six hours from the time Mr. Scott tells you, or six hours from the time Mr. Scott finds out?
THE WITNESS: Six hours from when the field verifier, our employee, six hours from when they get the call, which comes for our control center, until we get to the site. And it's typically a lot less than that.
COMMISSIONER KOLBECK: And that's from anywhere along the pipeline or just South Dakota?
THE WITNESS: That's anywhere along the pipeline.
COMMISSIONER KOLBECK: Okay. Including Canada.
THE WITNESS: Yes. Including Canada.
COMMISSIONER KOLBECK: Okay. Are there any other restrictions in Canada than there are in the United States, or are there more in the United States than there are in Canada for dealing with the Emergency Response Plan?
THE WITNESS: I wouldn't call them restrictions. When I built the plan what I was able to do is take the best of both countries and all the information that I had, and I built one plan. I don't call it either/or restrictive in either country. I feel that the process that we use to develop our plan takes into account both countries.
COMMISSIONER KOLBECK: Okay. Do you plan to



have operations in South Dakota employ anybody in South Dakota on a full-time basis along the XL route?
THE WITNESS: We haven't determined the exact lotions of field offices, et cetera. But given what I just said a few minutes ago, the six-hour response time, I can tell you the answer is yes.
COMMISSIONER KOLBECK: Okay. What type of means would you use to respond to a -- if your plan was to kick in in a blizzard, how -- would you have to use land? Would you fly? What would you use?
THE WITNESS: Well, again our number one priority is public safety and employee safety. And, you know, if it's not safe for them to respond, I have to be bluntly honest that we will not be able to respond.
But that situation occurs extremely infrequently. In a blizzard situation what we typically use is our four-wheel drive vehicles that we have. Every employee will be assigned a vehicle, and they'll have obviously a four-wheel drive and correct tires, et cetera. And they will have an emergency response kit on their truck as well.
If we need other means to get there, that's part of the database that we have for contractors. We keep a very active and current database in our response plan for contractors to help us out with that.

COMMISSIONER KOLBECK: What would institute -- what's the trigger for the Emergency Response Plan? A quart, pint, a gallon, a barrel?

THE WITNESS: Any type of emergency. It doesn't matter -- it's not a volume thing necessarily. We could have an odor complaint. We could have a report from our aircraft that they may see stained vegetation. There's several triggers. And obviously the control center is a big one for us.

COMMISSIONER KOLBECK: Do you have -- did you on the existing pipeline, the Keystone Pipeline, do you have employees in Yankton?

THE WITNESS: Yes, we do.

COMMISSIONER KOLBECK: Would you -- when you say that you would have employees in South Dakota would they be in addition to or in a different location than the existing?

THE WITNESS: Yes. Definitely a different location. The two employees in Yankton their primary responsibility is emergency response. And they've undertaken HAZWOPER training, et cetera. But their second role is technical, instrumentation, and mechanical, and we would do the exact same thing along the pipeline in South Dakota, strategically position equipment and people along the pipeline.



COMMISSIONER KOLBECK: Okay. So there's no thinning of resources for one pipeline to provide an advantage for --

THE WITNESS: Not at all. No. Not at all.

COMMISSIONER KOLBECK: Okay. Is there any type of industry standard for a lot of people along a certain mileage of a route?

THE WITNESS: Not to the best of my knowledge. Again, we want to make sure we do have enough people, both employees and contractors, to respond. So again our employees are first. They secure the site, and then we call in extra resources as we need them.

COMMISSIONER KOLBECK: And these resources could be local?

THE WITNESS: Absolutely.

COMMISSIONER KOLBECK: Okay. But would a local -- I spoke about emergency response people in local -- or EMTs. Would they be called on? Would their systems be taxed if you had a response or -- what is their role, I should ask you?

THE WITNESS: Well, the role of public officials -- really what we count on is more so police and fire. And we educate them on pipeline safety as part of our integrated public awareness program.

We really only ask them one thing, and that is



to secure the site to help protect the public.

COMMISSIONER KOLBECK: So you're not going to ask a rancher from Buffalo to fight an oil fire?

THE WITNESS: No.

COMMISSIONER KOLBECK: But they may be called on to block off a road?

THE WITNESS: Absolutely correct.

COMMISSIONER KOLBECK: Okay. And they know this going in; correct?

THE WITNESS: Yes. That's part of our public awareness program, to visit all first responders, emergency services, LEPCs, that's local emergency planning committees. I don't like to use acronyms because there's lots of them.

But, yeah, that is a definite role that we see, to educate them in advance of operations. That's part of the six-month window after we're -- prior to operations I spoke to Mr. Blackburn about they go through and do that.

COMMISSIONER KOLBECK: And just so I'm clear, you could not pump a product through the pipeline obviously without a permit from the PUC, but you could also not pump product through there without an Emergency Response Plan; is that right?

THE WITNESS: That's correct.

COMMISSIONER KOLBECK: Okay. So there's



actually two -- you need two sets of is it regulations or is this something that's -- I shouldn't say -- is it two state regulations, or is the Emergency Response Plan a federal regulation?

THE WITNESS: I believe it's both. But again PHMSA's our regulator. But I think from a TransCanada perspective that's why I'm here is to make sure we don't -- we do have a plan, correct, and we're not going to pump oil before that plan is vetted and approved and in place well in advance of operations.

COMMISSIONER KOLBECK: What would the ramifications of that be if there was some mixup and the Emergency Response Plan was not filed and product started to flow? Would there be legal ramifications?

THE WITNESS: I don't know. I would have to defer to my legal attorneys over there. I'm not sure. But again we have such a rigid process on compliance to make sure those are done, I don't think that can happen. But I appreciate your question.

COMMISSIONER KOLBECK: All right. Thank you.

THE WITNESS: Thank you.

MR. SMITH: Commissioner Hanson.

COMMISSIONER HANSON: Mr. Smith, thank you. Looking at your testimony, you don't need to turn to it but you state that the fourth component of the emergency

response program involves establishing a system of continued improvement and auditing of the program which, of course, we appreciate and think is proper.

Does not PHMSA have a list of requirements that your Emergency Response Plan has to meet or -- in looking at your testimony it appears that you developed a plan and then you submit it. Well, I'll stop with that and let you answer the first question.

THE WITNESS: Sure. I'll answer them both. That's fine. So with respect to PHMSA what we do is they have an actual checklist of mandatory requirements we're supposed to put in our plan.

And the process that I used is to take that checklist to PHMSA personally and met with them and went through every single item in our plan to make sure that we were compliant and there were no gaps in what their legal requirements were. And that happened on October 22 for Keystone base, and we received a letter January 22.

So as far as what we do to make sure there's a check and balance in what we send to PHMSA, that is our process we go through to make sure that's done. Same process with National Energy Board in Canada.

As far as my testimony, when I say continual improvement and change, PHMSA also has requirements when we do change any significant component of our plan that



we have to file that with PHMSA. If you change something very simple like a local phone number or maybe what else can be simple? A waste contractor or something very simple like that, then we change that on our own. But any substantial changes we do have to file that with PHMSA.

Do you want me to answer the continual improvement one now, or do you want to --

COMMISSIONER HANSON: Sure. Go ahead.

THE WITNESS: So the continual improvement one is an interesting one because as we go through and do our training exercise, meaning HAZWOPER and water-based response drills and ice drills and all of that stuff is that the system we have in place is to go through with staff and go through with regulators, public officials that attend our exercises.

And what we look at are improvements in safety on a spill site when we do a drill. So we go through a very regimented incident command system and structure and identify safety as a prime component. And then we go into how good did we do and where can we improve on a technical aspect to spill response on water drills.

And last thing we do is we look critically at our equipment as well. Did something fail? Was it not correct? And we document those changes in the spill --



exercise spill report, and we take those and roll them out to the entire company. That's ongoing right now for the Keystone base.

COMMISSIONER HANSON: Thank you. You remember my questions better than I.

Last question. Since you do this on an ongoing basis, may I assume correctly that you have incorporated changes hopefully for the better -- obviously they would have to be for the better -- that are not required by PHMSA, and have you incorporated those in in this particular plan that you're working on for us?

THE WITNESS: Yes. Correct. We did receive a letter from Mr. Brian Walsh, and we incorporated those changes that he suggested. There were four changes. And they were put into the plan.

COMMISSIONER HANSON: Specifically what I'm asking is have you developed on your own -- and perhaps you just answered it and I didn't understand your answer.

Have you as a company developed and initiated improvements to the plan that would never be required or are not required by PHMSA?

THE WITNESS: Okay. Yes, we have. Several. And the way our changes are when we do the spill drills and training I group them by observation. I group them by recommendation. And I group them by action.



And in the five drills we did this year with Keystone base, two which were at Yankton, we did identify things that were not required by PHMSA and more along the safety end of things. And we've made those changes already.

COMMISSIONER HANSON: And those then are then -- in incorporating them from your previous testimony I'm assuming that you then present those to PHMSA, and they still have to approve that as a change to your plan?

THE WITNESS: No. They weren't -- they didn't meet the triggers of PHMSA. They were very, very small things. I'll give you a real quick example.

When we have our safety boat on our response trailers our company-owned trailers that's stored on the roof of the trailer we made just a simple improvement to put the boat inside the trailer instead of having to go through extra time and extra safety measures to take the boat off the top of the trailer.

So that's an example a nonPHMSA-improved thing that we just did as a best operational practice.

COMMISSIONER HANSON: Okay. So your Emergency Response Plan is an ongoing change as you had testified. Appreciate that.

Thank you, Mr. Smith. Thank you.

MR. SMITH: Commissioner Kolbeck.

COMMISSIONER KOLBECK: I'm sorry. I just forgot one thing. What would you classify the education level of your employees who will be stationed in South Dakota? Do they have to have a -- certain training? Do they have an Associate of Applied Science or Bachelor of Science in anything, or does most of their training come from PHMSA or TransCanada?

THE WITNESS: I would say just based on my experience and going back to Keystone base I was involved with a little bit of that. Most of our staff that are along the pipeline, not at an office, so there's a difference there, are technical. So they would be what we would call an electrician, and in Canada we call them journeymen. And I know there's not the same type of certification in the United States. Or a mechanical technician, somebody that is a millwright, and those are the people along our pipeline.

We would also have a couple of regional offices that we would have extra people, more of an office support and end staff.

COMMISSIONER KOLBECK: And you talked about a trailer and boat and four wheel drives. Those people are -- you would classify would be a trade, electrician? Someone with a trade; is that correct?

THE WITNESS: Did I understand that correctly,



the people that haul the trailers to site?

COMMISSIONER KOLBECK: Well, no. I'm sorry. You referred to trailers and boats and four-wheel drives. Those individuals that are employed by TransCanada, their educational requirements are more than a high school diploma or less?

THE WITNESS: Typically more. Yeah.

COMMISSIONER KOLBECK: Okay. And then is there more training required of them through your company?

THE WITNESS: Certainly. And I'll just speak to the training that I'm responsible for, emergency response. So they are required to have a 24-hour HAZWOPER training, which includes several components.

It also includes the certification of Incident Command System 100 and 200. And my goal is to make them absolutely intimate with every part of that trailer and boat equipment and make sure they know how to use it.

COMMISSIONER KOLBECK: Thank you for struggling through that with me, my question.

THE WITNESS: My pleasure.

COMMISSIONER KOLBECK: In a coal plant you need a basic amount of education, and the company will train you on how to run a coal plant. Because obviously there isn't any technical college out there that has a class on how to run a crude oil pipeline is what I'm trying to get



at with it.

THE WITNESS: Well, I'm just speaking emergency response. I know the people in Keystone base went through almost two months of training which included I had them for four solid days on my stuff. So they had several other types of training as well.

COMMISSIONER KOLBECK: Thank you.

MR. SMITH: Mr. Rislov, a question?

MR. RISLOV: Yeah. I had a couple.

Have you ever participated in an actual spill I don't want to use the word "cleanup" but, you know, repair, if you will?

THE WITNESS: It's not something you want to be real good at, but probably over 300.

MR. RISLOV: So you've done a lot in this area as far as actual spills are concerned obviously.

THE WITNESS: I would say so.

MR. RISLOV: When people use the word "equipment," I mean, I've heard four-wheel drives, boats, trailers, but that could be half the people in Pierre going fishing in the summer. And I was curious what type of equipment is actually used to stop a leak, for lack of a better phrase?

THE WITNESS: I'd rather be fishing with them as well. Unfortunately, I'd probably be on site.



So there's lots of equipment. Most of the spills just because of the strict geography of the pipeline is on land. And for land-based spills what we typically use is what we in the pipeline world call yellow iron. So what that means is CATs, bulldozers, graders, vacuum trucks, tanker trucks, those types of things just to secure the oil, contain it on land. That's the first thing. Typically we'll set up contractual arrangements for that type of equipment everywhere we can.

And then the second part of it is spill equipment. That's the stuff that we have in our response trailers, and we will strategically put those trailers all along our pipeline. The 34-foot trailer has over 700 pieces of equipment in it.

MR. RISLOV: And I guess that follows my question. I understand your yellow steel and how that would be available perhaps more likely in eastern South Dakota than western. But how far are your 70 or whatever foot trailers from any particular point at any one time?

THE WITNESS: So the 34-foot trailers and then the 20-foot trailers I haven't gone out and actually looked physically where we're going to situate those trailers. We may need more. We may need to do something

a little different than Keystone base. But that has to be determined.

What I can tell you is we're committed to owning our own equipment and putting it within that six-hour response window that I described.

MR. RISLOV: So that six-hour response window would take into account the highways, the roads within the area, the remoteness of the pipeline at certain times I suppose?

THE WITNESS: Yes. And again we assumed a 40-mile-an-hour driving time.

MR. RISLOV: So would it be safe in South Dakota there may be one trailer for the entirety of the state?

THE WITNESS: No. If I look at South Dakota, I would probably think there would be at least two. And I do want to say our equipment is just one source of equipment. We also have a contractual arrangement with a company that is a 1,000-pound drill spill response that will guarantee us equipment within 12 hours as well.

MR. RISLOV: Will there be someone at every spill who's had actual experience on pipeline spills, would you suppose?

THE WITNESS: Well, maybe not at the outset. The first person on site again will secure the site. But what I mentioned to Commissioner Kolbeck is we have



trained them in spill response. They are -- for Keystone base. They know what to do. I can't guarantee they'll have experience in spill response.

MR. RISLOV: Thank you.

THE WITNESS: Okay.

MR. SMITH: Thanks. I just have -- I have one question. You know, in the original Keystone order we included a condition that -- where you would submit your Emergency Response Plan to the Commission for its review at or prior to the time when you submit it to PHMSA for approval.

Is that a condition that you can live with in this permit?

THE WITNESS: I believe that was an oversight. It was submitted after. But I would have to defer to our attorneys to answer that question.

MR. SMITH: Okay. All right. Thanks.

Additional questions? Just a minute here. Maybe, Mr. Koenecke, do you want to follow up here?

MR. KOENECKE: I do have a couple, Mr. Smith. And I will get an answer to you for your question as soon as I possibly can.

REDIRECT EXAMINATION

BY MR. KOENECKE:

**Q.** Mr. Hayes, it's my understanding that while PHMSA



requires you to have an Emergency Response Plan, it doesn't necessarily approve it; is that correct?

**A. They did approve our plan. They actually issued us an approval letter.**

**Q.** And was that an unusual act in your experience with PHMSA?

**A. In my experience that was definitely unusual. I did not expect to get a full approval letter like that.**

**Q.** I also -- if I recall from your previous testimony, did I understand that you visit all LEPCs and local emergency responders?

**A. We visit them well in advance of operations, like I mentioned previously, at least six months.**

**Q.** But I want to make sure you're not saying you're going to visit them in person.

**A. No, I'm not going to visit them in person. I help put the program in place, make sure the messaging is correct.**

**Q.** So you'll be in contact with them I guess is perhaps maybe a more appropriate way to say that?

**A. Well, what typically happens is that gets turned over to people that are in the operating part of our business. So they would take that program and roll it out to local LEPCs.**

MR. KOENECKE: Very good. That's all I have.



MR. SMITH: Thank you. Follow-up questions, Mr. Blackburn?

MR. BLACKBURN: Thank you.

RECROSS-EXAMINATION

BY MR. BLACKBURN:

**Q.** A number of things. You talked about securing sites. And let me take a step back here. Something the landowners are concerned about is just wanting to know how far the oil could flow or spray from a major rupture of the pipeline. And that comes from seeing pictures and photos of other ruptures of pipelines where the oil's in fact spraying significant distances.

Has TransCanada in terms of defining the -- as you said, to secure the site you need to know how big the site is. Have you defined or estimated how big the site could be or how far away from the pipeline the site could go?

**A. We have not done any studies, Mr. Blackburn. The only thing I can draw on is two things. In the spills -- and Mr. Scott referenced small leaks versus ruptures. In the spills that I've been involved in I've only had three that I would call a spray. There's been no studies that I know that support that.**

**What we do tell our public officials is stay as far back as you can. If there's any irritant to your eyes,**

**ears, nose, or throat, in any way, shape, or form, you're too close. That's the message we'll get to them. Just block the roads until we get there.**

**Q.** The landowners are aware of, like I said, the spray going places including the Bemidji spill back in '91. TransCanada's testimony in Keystone I, I believe, said 120 meters.

The documents provided by TransCanada at this time from the Federal Government show about a 200-meter spray zone. That's the kind of thing they want to know.

I'm also aware that an independent consultant in California did a study that estimated how far the oil -- they're trying to develop housing developments near an oil pipeline, and they did a study to determine how far the oil would spray from one of those pipelines.

But TransCanada hasn't done that kind of study to your knowledge?

**A. No, they have not.**

**Q.** Okay. Who is Brian Wilson -- or Walsh. Brian Walsh.

**A. Mr. -- well, should I answer that? Mr. Walsh is with the DENR. And he had submitted a written letter to us. I don't know his exact job title. I'm sorry.**

**Q.** That's fine. How many ERPs have you been involved in preparing? Emergency Response Plans.



**A. Yeah. I knew the acronym. Thank you.**

**Q.** The court reporter.

**A. Correct. Thank you. Directly responsible, five. And if you look at my resume, involved in several others for another company and overseeing that work and approving it.**

**Q.** And each of those was sent to PHMSA for its review?

**A. No. That's not quite correct. Because of the geographic diversity in my background, I've worked in the northwest territories in Canada, South America, places like that. So not always PHMSA.**

**Q.** How many of them did you send to PHMSA for its review?

**A. Under my direct direction, two.**

**Q.** Okay. Did PHMSA for each of those provide requested changes to the plans?

**A. For the -- for the Keystone base, no. Because we cleared those up right at the meeting, the things we had to change.**

**For the other company that I worked for previously, I don't recall, it was so long ago, whether there was changes from PHMSA.**

**Q.** You also mentioned that a contractor would be providing the spill response personnel. I assume that would be for a major spill that you would seek a -- have



a contractor that would help TransCanada respond to that spill.

Can you provide us the name of that contractor?

**A. Yeah. Absolutely, Mr. Blackburn. There's actually three sources of contractors, and although I can't name what I call the yellow iron or yellow steel contractors, they have to be determined, the second one is what we call the National Response Corporation or NRC.**

**And they are what I characterize in sort of slang terms is the 1,000-pound gorilla of spill response in the United States. They have equipment scattered everywhere. And you'd call those your spill equipment and blue collar workers. Not to be discriminatory, but that's the labor force we need on a spill.**

**The second contract we have in place is what we call a spill management team, and that is with the O'Briens Group out of Houston, Texas, and they have between 80 and 120 individuals on the ready, ready to go. And they are what you call the white collar or the spill management team that would occupy key roles under the incident command system.**

**So we have one number that we would call, and we could ask for three incident commanders, four planning chiefs, five safety individuals, et cetera. And they're under retainer right now for Keystone base and we'll**



**extend both of those contracts for KXL as well.**

**Q.** Thank you. NRC is a company that would provide like you said the 1,000-pound gorilla for spill response.

Do you know if they have equipment currently in South Dakota?

**A. I don't know yet.**

**Q.** Do you have -- have you had any discussions about whether they would have spill response equipment in South Dakota?

**A. I have had those discussions. And the way NRC works is they set up contracts with independent contracts like the contractors or to them in essence a subcontractor. And the discussions that I've had with them, if we don't have enough resources in place from local contractors within our timing window, then they'll put equipment there and we'll make lease arrangements for that equipment.**

**Q.** Does NRC provide only yellow steel kinds of resources, or do they provide more specialized equipment for spill cleanup?

**A. No. NRC is not the yellow steel/yellow iron guys. NRC is the spill response contractor. That's the people who have actual spill equipment.**

(Discussion off the record)

**A. What NRC has is specialized oil spill response**

**equipment. So they will have command post trailers, which are full communication trailers. They have boats of several different sizes and specialty functions. They also have oil spill boom, containment boom, B-O-O-M. And then they also have things like skimmers, oil spill response skimmers. And any type of auxiliary equipment you need to respond to a spill.**

**Q.** When would you know where the equipment, such equipment, would be located -- whether such equipment would be located in South Dakota and where it would be located in South Dakota?

**A. That would be the first six months that I mentioned to you that sort of started January 1, 2010 that we start to develop that list. Because that is the primary thing that we have to do that's different than Keystone base.**

**Q.** So just to get this clear, sometime between January and June you would work out with NRC where the equipment would be located?

**A. That's 100 percent correct.**

**Q.** And would that information be provided to PHMSA for its consideration?

**A. It's not for their consideration. It's their approval. We have to have that in place as what we call our OSRO, capitals, oil spill response organization, has to be identified in our plan.**



MR. BLACKBURN: Thank you.

THE WITNESS: Thank you.

MR. BLACKBURN: Thank you. That's all.

THE WITNESS: Thank you.

MR. SMITH: Ms. Semmler.

MS. SEMMLER: No questions.

MR. SMITH: Any follow up Commissioner questions?

Keystone?

Thank you, Mr. Hayes. You may step down.

THE WITNESS: Sorry I went so fast.

MR. SMITH: We got to keep Cheri on her toes. Okay. It's noon so we will be in recess. What do you think? You folks who have to -- what's that?

Commissioner Kolbeck is directing 1:30. So we will be in recess until 1:30.

(A lunch recess is taken)

MR. SMITH: If we could, everyone, maybe take our seats. I think the clock on the wall anyway is showing 1:30.

Okay. I'm going to call the hearing back in session. Are we good to go?

Okay. Apparently we're back live on the internet here. I will call the hearing back in session in Docket HP09-001. That's TransCanada Keystone



Pipeline, LP and their Application for a construction permit to construct the Keystone XL Pipeline in western South Dakota.

Prior to recess TransCanada, the Applicant, was in the progress of putting on its direct case. And at this point I will call on Mr. Koenecke or his co-counsel to call their next witness.

MR. MOORE: Thank you, Mr. Smith. Keystone calls Heidi Tillquist to the stand.

(The witness is sworn by the court reporter)

DIRECT EXAMINATION

BY MR. MOORE:

**Q.** Can you introduce yourself, please.

**A. My name is Heidi Tillquist.**

**Q.** Where do you live?

**A. I live in Fort Collins, Colorado.**

**Q.** What's your business address?

**A. 1601 Prospect Parkway.**

**Q.** What is your role with the Keystone XL Pipeline Project?

**A. I work as a contractor with AECOM for TransCanada. I've been doing pipeline risk assessment for them for the last several years.**

MR. SMITH: Excuse me, Mr. Moore. I'm sorry. Could you please, Heidi, pull the mic a little closer to



you. Again these really require you to be close to pick it up. Thank you very much.

**Q.** You said that you prefiled direct testimony in this case; correct?

**A. Yes, I did.**

**Q.** And you have that before you marked as Exhibit 12?

**A. Yes.**

**Q.** And are there any changes or corrections to the testimony before you that is marked as Exhibit 12?

**A. No.**

**Q.** If you were asked all the questions that are contained in that testimony today, would you give all the same answers?

**A. Yes, I would.**

**Q.** Ms. Tillquist, there was in paragraph 10 of your direct testimony, testimony about the chance of a spill occurring in South Dakota once in every 7,400 years for any particular one-mile segment of the pipeline. That figure is different from the figure that was contained in your initial testimony in this case before it was changed.

Could you just explain to the Commission in general what occurred there?

**A. Well, we calculated the risk of a spill based on the PHMSA database, which is basically an incidence database**

**for all the hazardous liquid pipelines, and then we used modification factors based on best professional judgment of many of TransCanada's engineers.**

**When we first did the risk assessment we calculated that value of 8,400 years. When we did a series of Q and As both internally with AECOM TransCanada's -- some of their contractors and actually the gentleman Kent Muhlbauer that wrote the pipeline risk assessment book, they all found it adequate, they were fine with it.**

**But when I looked at the number, the 8,400 and how it was derived, it's broken down into several factors, corrosion, excavation damage, geological hazards, hydraulic events, and materials. The corrosion value that we had -- after we had taken the baseline PHMSA database and modified it, it had dropped down in the ranking compared to the way the original PHMSA database would be.**

**So I -- to be true to the PHMSA database, which again is historical data -- it's based on much older pipe, but corrosion and excavation tend to be the top two major causes of pipeline incidences. With this reranking with these application factors it had dropped it down to the point where I felt it wasn't being true to historical data.**



**Now the engineers feel that they were extremely conservative in their adjustment factors. In fact, they feel that the adjustment factors are still probably off by a factor of an order of magnitude of 2.**

**Nevertheless, the purpose of my work is to be extremely conservative. So I adjusted the risk up so greater chance of it occurring to hold true to historical data to remain so that we were basically again overestimating the risk of an event.**

**Q.** Could you just explain for the Commissioners what the PHMSA database is?

**A. The PHMSA database is data collected by PHMSA. The most recent database starts in 2002 to present. It categorizes the -- if an operator has a spill of over 5 gallons or various other criteria, they have to report it to PHMSA, and PHMSA collects a variety of data about each of these spills.**

**So it's a pretty powerful database, and it allows us to analyze a lot of information about pipelines and pipeline incidences.**

**The thing that you need to note is that the majority of pipeline -- over 60 percent of the pipeline is built before the 1970s. So before we have FBE coating and cathodic protection. A lot of the things we consider standard practice now. The in-line inspections. Lots of**



**pipe hadn't had that done.**

**So the database tends to be, again, extremely conservative when you try to apply it to a new pipeline because so much of the pipe is old with old standards compared to this new pipe that we're putting into the ground.**

**Q.** So is it fair to say that you adjust the historical data based on current pipeline construction and operations practices that would affect the likelihood of a spill?

**A. That's correct.**

**Q.** And in doing the calculation that you did that resulted in a spill once every 7,400 years for any one-mile segment of the pipeline do you overestimate or underestimate risk in your calculation?

**A. The whole point of the risk assessment is to try to overestimate the chance of an event happening. That gives the decision-makers a good chance of -- you know, they have some bounds. So if I say it's a spill is no more than once in every 7,400 years, we don't expect it to occur -- for any given mile we don't expect it to occur at that frequency. We would actually expect it to be much less. But it does provide a conservative estimate.**

**Q.** Also in paragraph 10 of your updated direct



testimony you indicated that the size of that spill is likely to be three barrels or less.

What is the basis for that determination?

**A. Again, going back to the PHMSA database, they have a lot of data that's available to analyze. One of the columns that they have is the amount of material lost in a hazardous liquid spill.**

**We calculated statistics. Now I'll try to explain this. The median spill size is three barrels. Now there's different ways of explaining an average. There's median and a mean.**

**The median is an average where 50 percent of the spills will be smaller and 50 percent will be larger. So the three barrel spill represents the median value. So 50 percent of the spills will be smaller than three barrels, 50 percent will be larger.**

**Median -- sorry. The mean value is when we sum up all the spills and then divide by the number of total spills. That gives us a mean spill size of 296. The reason that those numbers are so different is because the data is skewed. There's many, many very small spills and there's a couple of outlier points, and that pulls the mean value to a greater value.**

**So we express a lot of times the median value because that gives the person an idea of, you know, most**

**of the time it's going to be this size.**

**Q.** In looking at the PHMSA database were you able to obtain historical data about the size of spills not detected within the first two days of the occurrence of the spill?

**A. Yes, we did. We looked at -- again they have a timed detection with the spill volume. The mean value is 527. The median, so, again the 50 percent, is 15 barrels. So spills even if they didn't detect it within the first 48 hours, most of them are 15 barrels or less.**

**Q.** And were you able to determine from the historical data in the PHMSA database the percentage of spills detected within seven days?

**A. Yes. The number of spills detected within seven days is 97 percent.**

MR. MOORE: That's all the questions I have, and I'd tender the witness for cross-examination.

MR. SMITH: Thank you. Mr. Blackburn.

CROSS-EXAMINATION

BY MR. BLACKBURN:

**Q.** Ms. Tillquist, you've testified that there's a median and a mean spill. Do the regulations that -- I assume you're familiar with the regulations that govern -- that regulate spill emergency response planning; for example?



**A. I'm fairly familiar.**

**Q.** Do those regulations regulate for the median spill?

**A. If you're talking about spill -- 194, Part 194, talks about the maximum spill volume.**

**Q.** All right.

**A. That's what they plan for.**

**Q.** And so the regulations also don't plan for the mean spill either.

**A. No.**

**Q.** So your testimony today here is, therefore, not directly relevant to how this body or any of the bodies -- or the Federal Government regulates actual spills or what the planning should be related to those spills?

**A. No. I wouldn't agree with the way you stated that. The risk assessment that we do is a baseline assessment. We use it for NEPA planning purposes. We use it for design for placement of valves. But we also use it to begin the integrity management planning program. That is covered in the federal regulations.**

**It gives us an idea of where we need to be concerned about, and it gives us an idea -- by looking at things like the mean and the median volumes, it gives us an idea of what to expect.**

**However, again, when we go back to our response plans and for our planning purposes we will use the maximum spill volume to ensure that we have sufficient personnel and equipment to cover that maximum spill volume.**



**Q.** So your testimony here wouldn't have any effect on the quantity, quality, or availability of materials, equipment to respond to spills?

**A. My testimony wouldn't have any --**

**Q.** Would TransCanada adjust its spill response efforts based on an assessment of the median -- or the median or mean spill volume?

**A. No. TransCanada will plan for the maximum spill volume.**

MR. BLACKBURN: No further questions. Thank you.

MR. SMITH: Ms. Semmler.

CROSS-EXAMINATION

BY MS. SEMMLER:

**Q.** Excuse me. I have some questions about the impaired streams that will be affected by the pipeline. I think I've got the right witness. Or no.

**A. It probably was not me.**

**Q.** Okay.



**A. Sorry. I'm more dealing with the spills.**

**Q.** Yep.

MS. SEMMLER: We can clarify it in other ways. So no questions right now.

MR. SMITH: Thank you, Ms. Semmler. Commissioners, do you have questions of Ms. Tillquist?

Commissioner Hanson.

CHAIRMAN HANSON: Thank you, Mr. Smith.

Ms. Tillquist, good to see you again.

THE WITNESS: Nice to see you.

CHAIRMAN HANSON: Appreciate your past testimony before us on the Keystone line.

A moment ago as Mr. Moore was asking you questions and you were explaining either my ears didn't hear right or you misspoke. Because your written testimony says one spill in every 7,400 years and I thought I heard you say as you were chatting you said -- excuse me. Testifying. You said 8,400 years.

THE WITNESS: My original testimony that I filed had one in 8,400 years. And then we did an updated revised testimony.

CHAIRMAN HANSON: Oh, okay.

THE WITNESS: So what you have as my exhibit has the no more than one in 7,400.

CHAIRMAN HANSON: Okay. So as I was

multitasking -- I heard correctly. I just didn't hear the proper reference. I wanted to make certain I had the right --

Now when we talk about once in every 7,400 years in any given mile, my son was a lot better with calculus than I and statistics and such, but how does that change when we're dealing with a couple hundred miles going through the State of South Dakota?

What's the likelihood of a spill in South Dakota on a couple hundred miles?

THE WITNESS: Well, you would take the frequency occurrence that we have generated, and you can convert it. So this is per mile. There are 313 miles, I believe, of pipe in South Dakota.

If you did the same type of occurrence, you know, frequency calculation, you would come up with no more than one spill every 24 years for South Dakota.

CHAIRMAN HANSON: So there's a chance of a spill in South Dakota once every 24 years?

THE WITNESS: Again, that's based on a very conservative assessment that we did. We would not expect -- it's not -- TransCanada's expectation of that would be the occurrence frequency would be much less, but that is the value we calculated to give again decision-makers some basis of information. Kind of



worst-case scenario.

CHAIRMAN HANSON: Sure. Understood. And understanding this is -- at least for me is one of the most important parts of the whole component is the health and safety. I think everything surrounds it -- economic development's important, et cetera -- but it seems like the pipeline itself from the standpoint of health and safety of the citizens all surrounds whether there's a likelihood of any sort of release.

The ERP is going through a process of development at the present time. And I don't know if we're going to see that prior to the statutory requirement for us to make a decision. I would anticipate that we won't.

However, if we don't, would it be wrong for us to rely upon the Keystone ERP as at least a barometer of what -- since you worked on that, I assume you can answer that question.

THE WITNESS: I actually did not work on the ERP.

CHAIRMAN HANSON: Okay.

THE WITNESS: But my -- you know, as you heard Mr. Hayes testify, the majority of the ERP that Keystone XL will be based on, the majority is based on the Keystone template. So it would give you a good gauge.



CHAIRMAN HANSON: So would I be wrong to rely upon that as somewhat of a --

THE WITNESS: My personal opinion?

CHAIRMAN HANSON: Yes.

THE WITNESS: I would say it would be fair to use that as a guide, yeah.

CHAIRMAN HANSON: Thank you. In your testimony you also stated that approximately 1 percent of the pipeline incidents are attributed to ground motion. Surprisingly enough, we have had some earthquakes actually in South Dakota, albeit small, but what's the likelihood of a ground motion?

And I also understand -- it's interesting. You drive down the interstate and you see hills in a variety of areas that have just fallen down and you can see the lines of where they have collapsed upon themselves.

What's the potential of that happening?

THE WITNESS: Well, I think you addressed the potential based on historical data. Again, including the older pipe, it's a small fraction of the events.

We did account for ground motion as a hazard to the pipeline in our risk assessment. The interesting thing is that a lot of the area in South Dakota is classified by the -- by PHMSA. They do kind of a national map. So very, very broad, but a lot of



South Dakota, western South Dakota, was classified as having landslide potential.

So we actually increased the risk in our risk assessment due to that. So, again, we -- trying to think of how to explain it. We tried to overestimate the number of spills we would see.

Now in actuality again that was at a macro level that these maps were generated at. I was personally involved with the routing. And when we would route this pipeline, as you said there's a lot of places where the slopes are steep, and they tend to sluff off.

We mainly tried to stay up on these plateaus, much more stability, and tried to avoid side slopes or steep slopes coming off the hillsides.

I know that there was in some of the open houses some concerns of the people that had mentioned this particular area we think this slope is pretty unstable. I know Keystone had somebody out within like a day or two, and actually they engineered that whole site based on the information they got from the landowner.

So it's something to consider. It's a risk. Modern pipe is a lot more robust than older pipe but it's still a hazard and we consider it very strongly in our assessments.

CHAIRMAN HANSON: What's the survivability of

pipe in that type of a situation?

THE WITNESS: I think modern pipe has shown to be very robust. I don't have any statistics to give you on that. But I know like in earthquakes, I mean, we have to actually plan for those types of movements. In California they've got, you know, hundreds of miles of pipeline, and they can actually adjust for those types of things.

Sluffing and things certainly could affect a pipe. If ground motion like that were to occur, Keystone is required by federal regulations to actually go out and inspect the area to see if there is any damage to the pipeline. And that may consist of actually putting one of these geometric pigs in the pipeline to see if there was any defamation of the pipe, let alone any leaks or anything.

So they'll be going out there and looking at it to make sure the integrity of the pipe is still intact.

CHAIRMAN HANSON: Thank you. In your testimony you also state that ground water contamination would tend to be localized within a few hundred feet of the spill site.

You also state in another portion of your testimony that the pipeline itself in working it would be



important to minimize the risk to public surface water resources.

Do you have based upon your own personal position what you would consider outside of the -- what has been presented to us what you believe is the right distance to have this pipeline from a public water source such as someone's well on their farm or ranch or wells for a community?

THE WITNESS: Well, there was a study done -- actually it was a series of five or six studies combined. They looked at over 500 sites where they looked at BTEX, which is the soluble components of concern in crude oil, and the mobility in ground water.

And they found that in over 90 percent of the cases -- you know, again, you have the spill occurs. Over time the -- it's not the crude oil that moves but it's the dissolved constituents that come out of the oil and that can migrate with the ground water.

What they found was that the constituents 90 percent of the time were limited to about 300 feet away from the actual source site.

What does that mean as far as, you know, what's a safe distance? You know, I -- certainly -- you know, it's hard to quantitate, but I would say that even if you put a well that was right next to the pipeline and if a



spill occurred in that area and if it got into the ground water and if it got to the concentration that was high enough to cause problems, there is regulations that require that, you know, TransCanada would have to provide an alternative water source.

Again, because it's so localized, the effects, we can also know which way the ground water's moving, that Keystone may -- you know, as I said, they have to provide an alternative water source. They may end up drilling another well within a few hundred feet just next to it but up stream the ground water movement and they have an alternative water supply. So there is mechanisms in place even if something were to occur.

CHAIRMAN HANSON: In your written testimony as well as in your oral testimony today you've stated within a few hundred feet. A few always means 300 to me -- 3. Excuse me.

What does it mean to you.

THE WITNESS: If I didn't say it, what I meant to say is 90 percent of the cases the spill was within 300 -- approximately 300 feet of the source oil.

CHAIRMAN HANSON: Would I be right or wrong to change -- or to interpret, excuse me, in your testimony on paragraph -- on 13, your answer to 13 when you said ground water contamination would tend to be localized



within a few hundred feet of the spill, would I be wrong to assume you meant 300?

THE WITNESS: That would work.

CHAIRMAN HANSON: Okay.

MR. KOENECKE: Is that a yes?

THE WITNESS: I'm sorry. That would be a yes.

CHAIRMAN HANSON: Thank you. We speak the same language. It's not legalese. Thank you.

Also you state crude oil floats on the water's surface. This is in your written testimony on 14. "Crude oil floats on the water's surface providing the opportunity for Keystone to detect, contain, and clean up the crude oil before long-term environmental impacts occur."

In your oral testimony today I'm sure you'll agree you spoke of the dissolved contaminants. So as I read that sentence, should I feel as safe about it as I did the first time I read it?

THE WITNESS: First of all, let me go back and find it because I was still trying to find it.

CHAIRMAN HANSON: If you look under 14.

THE WITNESS: Yep.

CHAIRMAN HANSON: About the fourth paragraph, second sentence from the --

THE WITNESS: I got it. Okay. Okay. So what I

would say about crude oil floating on surface water --
CHAIRMAN HANSON: You're saying there's an opportunity there.
THE WITNESS: Yes.
CHAIRMAN HANSON: How much of an opportunity? Basically let me get a little more direct to what I'm asking.
And that is how much time is there before these dissolved contaminants -- isn't that fairly immediate before they start to filter through?
THE WITNESS: That would depend on the environmental conditions. What we assume for our risk analysis is we basically took all the oil and basically shook it up in the water system, and that's how we evaluated our toxicity. That never happens.
In real life what you would have is things like turbulence if you were on a windy day where it might stir up -- you might increase the surface of the oil's contact with water. So you might increase the ability of the oil -- the dissolved constituents to get out. Temperature is a factor.
There's a number of different factors, but it's not an instantaneous thing by any means. And as a matter of fact, most of the chemicals that have water solubility, BTEX compounds that we talk about, most of



them have a greater affinity to the oil than they do to the water itself.
So you have an oil spill spreading out on the surface of the water, the biggest -- the weathering process is the evaporation of these BTEX compounds. They are highly volatile so they tend to evaporate faster than they're going to dissolve into the water.
And the other thing I would add is that of the 69 compounds that they examined within crude oil, it was only benzene that had the ability to solubilize into water to a concentration that it would exceed the maximum contaminant level. So it's a drinking water standard.
So it takes time. The evaporation's going to be a bigger factor than the dissolving rate. So certainly it does allow the emergency crews time to react.
CHAIRMAN HANSON: And ground water would be subjected differently than surface water?
THE WITNESS: That's right. So ground water, again, the spill's going to have to start penetrating through the soil to however deep the ground water is. It will pool on the surface of the ground water.
During the penetration phase and while it's beginning to pool on the surface of the ground water, you know, cleanup crews can be, you know, trying to excavate and will remove this.



What you will find is that if oil is left over, if it stays there for a length of time, that's when the dissolved constituents can get out and start moving in with the ground water. But they tend to move more slowly than the ground water because of natural attenuation.
CHAIRMAN HANSON: In your testimony you spoke of appropriate remedial measures. Would that include monitoring wells? And I won't -- it's in the same paragraph as what we were referring to before, but it's towards the end. But it's referring to the event -- if an event took place, that appropriate remedial actions would take place.
Would that include paying for monitoring wells so that if it were ground water to be able to ascertain or draw the liquid out that's certainly downstream, have monitoring wells so that any progression of the contaminant would be found, discovered?
THE WITNESS: What would happen if a spill occurred and there was -- we suspected that there was ground water contamination -- well, the spill occurred, the South Dakota DENR would be notified.
If the ground water contamination was suspected, then a sampling would need to occur. So monitoring wells would be likely installed. Again, this would be at Keystone's cost. They're responsible for their cleanup.



Then based on what they were finding, what the results of those were, they would work with the State agency to determine what type of remediation process would be appropriate. Sometimes remediation can -- you know, when you dig up or do -- you know, things can cause a lot more damage.
So they would work with people like Kim McIntosh with the State to come up with what remediation process is appropriate and the cleanup levels that they would be held to.
CHAIRMAN HANSON: Thank you very much. Thank you, Mr. Smith.
MR. SMITH: Commissioner Kolbeck, questions.
COMMISSIONER KOLBECK: Hi, Heidi.
On question I guess it would be number 8 of your direct testimony it said that in your analysis of the PHMSA pipeline the database indicated that fire occurred on approximately 2 percent of the pipelines.
Is this crude oil, or does that include natural gas and refined petroleum?
THE WITNESS: The PHMSA database is based on -- that I analyzed is based on hazardous liquids. So it includes refined products, you know, things like diesel and things like that. So it's more inclusive than just crude oil.

COMMISSIONER KOLBECK: Would you classify refined petroleum as more or less hazardous than crude oil?

THE WITNESS: That's a difficult question to ask. I would say there is -- refined products have a greater chance for acute toxicity, greater chances for excedences of water quality standards, but they also will have generally lower persistence in the environment.

So crude oil, again, has some specific compounds so that's why cleanup -- emergency response and then cleanup is important, particularly important for crude oil.

COMMISSIONER KOLBECK: Okay. Well, and we know it's important, but I guess I'm a little confused as to does refined petroleum penetrate the ground more than a crude oil?

THE WITNESS: Refined products tend to be -- have less viscosity. So, yes, they would penetrate soils much more quickly.

COMMISSIONER KOLBECK: Okay. So how about natural gas? Would natural gas be considered more flammable than crude oil?

THE WITNESS: Yes.

COMMISSIONER KOLBECK: So the 2 percent that number --



THE WITNESS: Let me just clarify. Natural gas is not even in this database. There's a whole separate database for natural gas. So this says natural gas liquids like heptanes and things like that. But natural gas methane is a separate database.

COMMISSIONER KOLBECK: Okay. So we've got -- we've got basically BTEX-based fuels in this 2 percent or --

THE WITNESS: Yeah. That is included in there. But there's also things like CO2 pipelines are actually considered liquid pipelines. Ammonia can be transported. I mean, there's just a litany of things. I would say the vast majority of materials transported are petroleum products. So --

COMMISSIONER KOLBECK: Okay. Of those products that are in that study, do you know where the flash point -- where the ignition point would be for crude oil compared to the other ones?

THE WITNESS: I'd have to -- I'd have to look that up. I'm certain we could provide that if you needed that information.

COMMISSIONER KOLBECK: I'm just wondering, you know, we've got a group of substances and we come up with 2 percent, I'm just wondering is crude oil the most flammable of the 2 percent or the least flammable of the



2 percent.

THE WITNESS: I would suggest that the crude oil that would be transported, knowing the BTEX content is -- it's close to 1 percent, 1 and a half percent. So, you know, again, those are the highly volatile compounds that would tend to quickly ignite given the low content compared to, say, in gasoline which would be -- maybe closer to -- and, I'm sorry, I'm going to have to guess here but maybe 25 percent or something.

It would be much more flammable -- the refined products would be more flammable. Crude oil would be much less likely to catch on fire. You'd have a very difficult time in some cases to get the crude oil ignited.

COMMISSIONER KOLBECK: Okay. The potential impacts on the sensitive species in your testimony, did you find anything unusual in South Dakota, any species that maybe you would highlight for us or think that we should take into special consideration?

THE WITNESS: No. Again, I was brought in very early on this process. And it's really unusual to be brought in -- for somebody like me to be brought in during routing.

But the benefits are is that we can route around a lot of these high consequence areas, places where



ecologically sensitive animals might be.

So literally when we were flying the route and drawing these maps we were literally overlaying these high consequence areas, including these ecologically sensitive areas, over the map so we could try to avoid to the greatest extent possible impacts to those areas.

So the amount of high consequence areas that we impact on this project it would be much lower than you would see on a typical project just because TransCanada got this risk assessment done early in the process.

COMMISSIONER KOLBECK: Okay. The vegetation obviously in the area that you're going through I would consider somewhat unique.

Would you agree with that or not?

THE WITNESS: I think every place is unique, but it's not -- there are other places many of these same types of environments can be found. But, I mean, you know, like the sand hills, that's a fairly -- I wouldn't say unique but it's -- it has its -- it would be unique characteristics.

COMMISSIONER KOLBECK: Sure. And you've helped permit over 5,000 miles of pipeline. So you're familiar with the situation, and you're comfortable with going through the sand hills in South Dakota?

THE WITNESS: Yeah. We've actually -- I've done

work -- doing the same types of risk assessments. We did work down, as an example, for a pipeline for Shell, and that went through some sand hill type areas around Jal, New Mexico. And they had some teeny species, some lizards associated with it.

So we did -- the same methodology that's used in the risk assessments and the studies that I do for Keystone is exactly the same thing -- I usually work for the government side. So the same method is used for the BLM or the Forest Service. They looked at the analysis for that pipeline and they were -- they said, yeah, this is acceptable.

COMMISSIONER KOLBECK: Okay. You mentioned that seven days detected is 97 percent. Could you explain that a little bit more?

THE WITNESS: So in the PHMSA database they have a column where they report time to detection. Now it -- well, so we took the data, we analyzed it, and we just said, okay, seven days. How many spills are detected? We did a percentile analysis. The number is 97 percent.

COMMISSIONER KOLBECK: What happens to the other 3 percent?

THE WITNESS: Most spills -- of the remaining spills in the database, the longest time to detect a spill, I'll have to look at my little sheet here, was



78 days.

What is interesting to note is that spill only consisted of 636 barrels. So it -- it doesn't necessarily equate that a longer time to detection equates with a huge release. In fact, this 78 days was probably a very small slow drip that occurred.

COMMISSIONER KOLBECK: Sure. So has it been your experience that -- if there was a lot of oil leaking out of the pipeline, you're going to have a much quicker response time?

THE WITNESS: Yes.

COMMISSIONER KOLBECK: Okay. So this 638 barrels over 78 days, that's -- that would not be detectable, or would a leak like that become larger and larger over time?

THE WITNESS: It becomes -- well, so you have a pinhole leak, and so it's dripping really slowly. So as you can imagine, it starts contaminating a little area, and then it starts percolating up through the soils and along in the pipeline trench.

We have aerial surveillance that flies by. So what they might have seen is they may have seen discoloration of the soil as the oil was coming up. What they might have seen if it was a heavily vegetated area is suddenly some vegetation starts yellowing.



There's a lot of keys. These folks that do the aerial surveillance are trained to look for certain things. So aerial surveillance could have picked it up. I don't know who picked it up. It could have been a landowner who was out -- maybe was on the range and they came out and smelled something and reported it. But that was the longest one that was in the database.

COMMISSIONER KOLBECK: Okay. And that actually goes to the mean and median like you were saying. The days are long, but the barrels are low so that's why there's two different --

THE WITNESS: Yeah. Yeah.

COMMISSIONER KOLBECK: As far as the crude oil that goes through the pipeline, is there any difference in the Canadian crude oil compared to Texas crude oil?

THE WITNESS: I'll give you a yes -- give you a mixed answer. Every crude oil is unique. However, the crude oil -- and that's just because of the geological formations that comes out of -- it's got hundreds of -- well, literally thousands of compounds within each oil.

However, these crude oils are very, very comparable to oils that we found in certain parts of California, Venezuela, Nigeria, Russia. So they're not unique.

COMMISSIONER KOLBECK: But as far as the fusion



bond epoxy pipe and corrosion, in your opinion would one corrode faster than the other?

If you're hauling Texas crude oil north or Canadian crude oil south, would those two pipelines, would one corrode faster than the other?

THE WITNESS: I'm not sure if I have the expertise to answer that question for you.

COMMISSIONER KOLBECK: Some of the landowners had questions I guess, and I'll just explain my question. Had thought that maybe Canadian oil was different than Texas oil or out of the Bakken formation in North Dakota.

Do you know if it's similar to that oil? Do you know if it's similar to the Bakken formation?

THE WITNESS: I do not know. Yeah. I don't know.

COMMISSIONER KOLBECK: Okay. When you say that if there was a small pinhole leak, it would bubble up in the trench, is that the same behavior of a refined petroleum? Or would refined petroleum go to the bottom of the trench and down?

THE WITNESS: Well, it's going to do a little bit of all. Typically what happens is with a spill it tends to stay in the pipeline trench because no matter how well they try to compact it, the pipeline trench is less consolidated than the surrounding materials. So it

will tend to spread laterally, and it will tend to spread vertically.

But there also will be penetration out of trench into the sides and down through the soils. Those rates won't occur as fast because of the lack of consolidation.

COMMISSIONER KOLBECK: How fast does this crude oil travel through the pipe?

THE WITNESS: I'm not an expert in that, but I've heard it's about as fast as you can walk.

COMMISSIONER KOLBECK: Okay. So it's not like --

THE WITNESS: It's not racing.

COMMISSIONER KOLBECK: Like natural gas particles -- that's a bad example. It probably doesn't move at fast as when you pump it into your car, refined petroleum in your car.

THE WITNESS: Yeah. I would say that's probably correct.

COMMISSIONER KOLBECK: I think that's it for me. Thank you.

THE WITNESS: Thank you.

MR. SMITH: Thank you. Any follow up from you, Commissioner Hanson? No?

I might have had just a couple here. In terms of overall -- in terms of percent of the line -- is that



my microphone blowing up there? Maybe it wants me to be quiet.

Would you characterize most of the area traversed by the pipeline as having ground water formations that are vulnerable in terms of your overall experience?

THE WITNESS: I would suggest that most of the route is not sensitive to the ground water contamination. Certainly there are portions along alluvial areas and, you know, sandy areas, but for the most part the depth to water and the formations underlying the lithology would prevent a crude oil spill from reaching most of the ground water.

MR. SMITH: I think that's all I have. I forgot. Mr. Moore, was that you who was conducting direct?

MR. MOORE: It was. And I have no additional questions.

MR. SMITH: Okay. In response to the Commissioner questions, is there any follow up from either Interveners or Ms. Semmler?

MR. BLACKBURN: If I may, just a couple of quick questions.

RECROSS-EXAMINATION



BY MR. BLACKBURN:

**Q.** Ms. Tillquist, are you an expert in emergency response planning?

**A. I am not.**

**Q.** And have you participated in any emergency responses?

**A. Yes, I have.**

**Q.** How many have you participated in?

**A. Just one.**

**Q.** Okay. Have you reviewed the Keystone system template for the Emergency Response Plan?

**A. I have not.**

**Q.** So, therefore, you wouldn't know whether it includes any site specific or state specific information in it about location of materials, location of personnel, or any other detailed information?

**A. I can tell you that I've -- let me retract I guess what I had first answered. I have seen the document. I have, you know, flipped through it, but I didn't examine it, you know, in depth for the Keystone line. And there was state-specific information. But I didn't examine it at all in detail. I just literally said, oh, here's -- I didn't spend any time.**

**Q.** And you referred to it as a template, not as a draft; right?



**A. I'm sorry. I was referring to the Keystone ERP that I looked at.**

**Q.** Yes. And you referred to that as a template?

**A. No. That they will use -- much of the information that's in the Keystone PHMSA-approved ERP, they'll use much of that same information for the Keystone XL plan.**

**Q.** Okay.

MR. BLACKBURN: Thank you. No further questions.

MR. SMITH: Ms. Semmler.

MS. SEMMLER: Nothing further.

MR. SMITH: Do you have any response, responsive questions?

MR. MOORE: Nothing else. Thank you.

MR. SMITH: Thank you. I think that's it then, Ms. Tillquist. You're excused.

Applicant -- how are you doing here, Cheri?

Keystone call your next witness.

MR. KOENECKE: The only witness we have left, Mr. Smith, is Secretary Oster for tomorrow morning at 8:30.

The only witness we have left in our direct case is Secretary Oster for tomorrow morning at 8:30.

MR. SMITH: Okay.

MS. SEMMLER: Mr. Smith, staff does have a few

housekeeping items we could possibly take care of if we do have some extra time.

MR. SMITH: Okay. So at this point then I'm understanding, Keystone, your case is going to rest until tomorrow morning and we'll have the one witness and then that's it for your direct case?

MR. KOENECKE: That's correct.

MR. SMITH: Okay. Sure.

Staff, fire away.

MS. SEMMLER: Well, I guess the easiest one to start with would be staff did submit prefiled testimony and some supplemental testimony if the parties would stipulate to that as we did to TransCanada's prefiled testimony. Staff would make that request.

Next would be because this has gone so much faster than we anticipated, staff does need some time to prepare for tomorrow, and we'd ask that the start time tomorrow morning be moved back 9:30.

Finally, we have several witnesses that are unable to be here until Thursday. And the parties have all agreed that they could participate telephonically. We'd ask that that be approved by the Commission as well.

MR. SMITH: Okay. I guess first I'll ask the other parties if you have comments or concerns with any of that.



MR. KOENECKE: We're certainly willing to stipulate to the staff testimony. We just think it probably should be in a list as we put ours together and would do it at that time. That's probably the cleanest? Is that what you're thinking, Ms. Semmler?

MS. SEMMLER: Yep. I can have -- have that list together right away.

MR. KOENECKE: I don't know Secretary Oster's availability at 9:30. I can check. I know he was unavailable every other day this week. Otherwise, no objection to starting at 9:30 that I'm aware of.

And, finally, we have no objection to examining staff's witnesses by telephone, should that be necessary.

MR. SMITH: Okay. Mr. Blackburn.

MR. BLACKBURN: No objections.

MR. SMITH: Pending Mr. Koenecke checking with your witness -- and I forgot -- Oster's availability at a time other than 8:30, I guess.

What is the Commissioners' thoughts about 9:30? I think staff -- I've sort of been ambushed here a little bit. I don't want to use that in a negative way. But, I mean, this hasn't gone like we all thought. To me it's reasonable to give them at least some extra time to prepare.

COMMISSIONER KOLBECK: No. I think that's very



reasonable.

CHAIRMAN HANSON: Absolutely. There was no way for staff to anticipate this. So certainly no intent to ambush or anything of that nature. It's from the standpoint that things progressed rather quickly. And I would say that that's due to the prefiled testimony and the fact that we have covered this type of ground before. And so to expedite it, it makes all the sense in the world to give staff that opportunity. Yes.

MR. SMITH: Okay. Well, with that then I'm going to -- on the record here so we're lawful about it when we recess today we're going to recess until 9:30 in the morning in lieu of the originally scheduled 8:30. Unless we hear that the only time when Mr. Oster can be available is at 8:30.

Because honestly if he could be available any time tomorrow, right, Mr. Koenecke, that would suffice, would it not?

MR. KOENECKE: Yes. That's exactly right. His testimony isn't chronologically important to ours or frankly to anybody else's of which I'm aware. And as soon as I find out I'll telephone you and let the parties know as well.

MR. SMITH: Okay. Subject to that caveat, we will resume when we do recess here today at 9:30 a.m.



tomorrow morning.

Does that take care of your issues then, Ms. Semmler then?

MS. SEMMLER: The final one was whether we could take testimony from some out-of-state witnesses via telephone. And I don't know that there will be any cross, but in the event there is, we'd prefer to do it via telephone so they aren't required to change travel arrangements and it creates complications.

MR. SMITH: Right. I don't -- the parties seem to be amenable to that, as I understand it, I mean, both Mr. Blackburn and --

MR. BLACKBURN: That's correct.

MR. SMITH: I know in past on a few occasions in general the Commission has not liked to do that just because of difficulties we've had sometimes managing examination over the phone honestly. But with the one thing we have done in the past when we've done that is -- the other thing is by the witness being here in South Dakota and of course taking an oath they are then within the jurisdiction of the State of South Dakota and that oath makes them come under our statutes related to the taking of an oath, among them culpability for perjury.

And we have asked witnesses in the past to

stipulate over the phone that they are in agreement that they are in effect testifying within the jurisdiction of the State of South Dakota and subject to all of our laws related to the taking of an oath and the sanctions that occur with respect thereto.

So, okay, Ms. Semmler, that we might want to communicate that to them.

MS. SEMMLER: And I don't anticipate any issues with that. That's acceptable.

MR. SMITH: Okay. Right. I mean, I would have to say in most of these kind of cases the testimony usually is opinion testimony and it tends more to be being wrong or -- than lying in general anyway. I think the risk of that is quite minimal.

Well, I don't know. In terms of today then, Mr. Blackburn -- Mr. Blackburn and I had a brief discussion prior to the commencement of the hearing today, and do you want to bring up now your issues with respect to your case, or do you want to commence a case in chief?

And, as I understand it, basically that -- if I'm getting it right and please jump in and correct me if I'm wrong that what you really had were a couple of exhibits that you wanted to try to have admitted either on a judicial notice basis or maybe on a stipulated



basis.

Would you like to address that now or should we take a quick break so you can organize your thoughts or what do you think?

MR. BLACKBURN: It will be a list -- won't be just a couple. We'll be looking at more exhibits than that. What I'd like to do this afternoon is prepare that list. I've got it partially prepared. I'll have a chance to finish it.

Tomorrow I can share it with the parties, and they can see whether it's acceptable or not. I believe most of them, if not all of them, will be because they are documents provided by TransCanada or available from other jurisdictions or getting in the public domain. So assuming that those are acceptable, we can probably handle it fairly quickly tomorrow.

MR. SMITH: Okay. You were going to prepare a list and then get together with counsel for the other two counsel and --

MR. BLACKBURN: That's correct.

MR. SMITH: And see if you can work something out? Okay.

MR. BLACKBURN: It's nearly done. I just had a couple last things I need to check on before I distribute it.



MR. SMITH: Sure. And I think that in order so both Mr. Blackburn -- again we're way ahead of schedule here -- and Ms. Semmler can get their presentations ready, is there any objection to our just going into recess now and you guys can get to work and we'll be ready to proceed in the morning?

MR. KOENECKE: No objection.

MR. SMITH: Okay. Other parties?

MR. BLACKBURN: No objection.

MR. SMITH: Okay. Then it's about 2:30. We're in recess then in Docket HP09-001. The hearing will come back to order at 9:30 in the morning, barring the problem with Witness Oster. Thank you, everyone.

(The hearing is in recess at 2:30 p.m.)



STATE OF SOUTH DAKOTA)
:SS CERTIFICATE
COUNTY OF SULLY )

I, CHERI MCCOMSEY WITTLER, a Registered Professional Reporter, Certified Realtime Reporter and Notary Public in and for the State of South Dakota:

DO HEREBY CERTIFY that as the duly-appointed shorthand reporter, I took in shorthand the proceedings had in the above-entitled matter on the 2nd day of November, 2009, and that the attached is a true and correct transcription of the proceedings so taken.

Dated at Onida, South Dakota this 23rd day of November, 2009.

_____

Cheri McComsey Wittler,
Notary Public and
Registered Professional Reporter
Certified Realtime Reporter

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