

South Dakota Public Utilities Commission

HP14-001 In the Matter of the Petition of TransCanada Keystone Pipeline, LP for Order
 Accepting Certification of Permit Issued in Docket HP09-001 - Evidentiary Hearing
 August 1, 2015, 8:00 a.m.

Room 414, State Capitol, 500 E. Capitol Ave., Pierre, SD

Please Print Legibly

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THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

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IN THE MATTER OF THE PETITION HP14-001
OF TRANSCANADA KEYSTONE PIPELINE,
LP FOR ORDER ACCEPTING CERTIFICATION
OF PERMIT ISSUED IN DOCKET HP09-001
TO CONSTRUCT THE KEYSTONE XL
PIPELINE

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Transcript of Hearing
July 27, 2015 through August 5, 2015

Volume VI
August 1, 2015
Pages 1310-1632

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BEFORE THE PUBLIC UTILITIES COMMISSION

CHRIS NELSON, CHAIRMAN
KRISTIE FIEGEN, VICE CHAIRMAN (not present)
GARY HANSON, COMMISSIONER

COMMISSION STAFF

John Smith
Kristen Edwards
Karen Cremer
Greg Rislov
Brian Rounds
Darren Kearney
Tina Douglas
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Reported By Cheri McComsey Wittler, RPR, CRR

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TRANSCRIPT OF PROCEEDINGS, held in the
above-entitled matter, at the South Dakota State Capitol
Building, Room 414, 500 East Capitol Avenue, Pierre,
South Dakota, on the 1st day of August, 2015.

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1 MR. SMITH: We'll call the hearing back to order
2 in Docket HP14-001. Petition of Keystone XL Pipeline, LP
3 for certification of its Permit issued in Docket
4 HP09-001.

5 And we were on cross-examination. Recross, I
6 guess. And I think, Ms. Baker, are we on you?

7 MS. BAKER: Yes. That's correct.

8 MR. SMITH: Do you need a minute?

9 MS. BAKER: Just one minute, please.

10 MR. SMITH: Okay.

11 Ms. Kothari, you're still under oath. The
12 hearing has been in progress the whole time so you're
13 still under oath. And, with that, we'll turn it over to
14 Yankton Sioux Tribe.

15 RECROSS-EXAMINATION

16 BY MS. BAKER:

17 Q. Jennifer Baker for the Yankton Sioux Tribe.

18 Good morning, Ms. Kothari.

19 A. Good morning.

20 Q. You mentioned that some water crossings will be
21 achieved through directional drilling.

22 Are you aware that TransCanada made the decision to
23 switch to direction drilling for the Bridger Creek and
24 Bad River Crossings?

25 A. Yes.

1 Q. Were you part of that decision-making?

2 A. Yes.

3 Q. What is the difference between open trench and HDD?

4 A. So an open trench -- an HDD is a trenchless method
5 of installation versus the open cut where we're actually
6 creating a trench.

7 Q. Is one safer than the other?

8 A. No. They're equal.

9 Q. Okay. Why did Keystone choose to make the switch to
10 HDD for Bridger Creek and Bad River?

11 A. It was a constructability review further into the
12 detail design process. And we felt that that particular
13 installation of those two crossings would be better
14 achieved through the trenchless process.

15 Q. So is it just an ease of construction issue?

16 A. It's a constructibility issue.

17 Q. And not a safety issue?

18 A. It is not a pipeline safety issue.

19 Q. Okay. So was that decision to make those two
20 crossings HDD based on lessons learned, as you put it,
21 from Keystone I?

22 A. No. It was part of the design process in reviewing
23 the particular crossing.

24 Q. Does one of those methods disturb less sediment than
25 the other?

1 A. It depends. The open trench, if the crossing is
2 dry, there wouldn't be any particular sedimentation in
3 that manner.

4 Q. You stated yesterday that you did a visit to the
5 site of the crossing at Bridger Creek in 2012. Which
6 side of that river were you on? Were you on the north
7 bank or the south bank?

8 A. The approach was from the north side because we had
9 visited the Cheyenne River area as well as the subsequent
10 kind of plateaus between the various crossings in that
11 location to better refine the route in that area.

12 Q. And I'm sorry. Did you say you visited the Cheyenne
13 River?

14 A. The crossings in that vicinity. There's
15 approximately a 5-mile area in there where we were
16 looking to specifically refine the route, and so it was
17 looking in that general area.

18 Q. Okay. When you got to that north bank how did you
19 get there?

20 A. We went with the land agents. So whatever specific
21 routing to get to those particular locations. I wasn't
22 driving. It was with the land agents.

23 Q. You're not aware of what highways or roads you were
24 on?

25 A. I'm not specifically.

1 Q. Are you aware of whether you were on Indian lands?

2 A. I do not know.

3 Q. Are you aware that that bank is only accessible
4 through the Cheyenne River Sioux Tribe Reservation?

5 A. We were in the Cheyenne River area. Some of the
6 reconnaissance was done by air, and some was on the
7 ground.

8 So specifically those crossings were looked at from
9 the air, and then some of the routing between the bluffs
10 and those areas was looked at via helicopter and the air.

11 Q. Did you have consent from the Cheyenne River Sioux
12 Tribe to travel through their reservation?

13 A. I'm not personally responsible for making any
14 contacts. That would be our land department.

15 Q. So you don't have knowledge of any consent?

16 A. I do not.

17 Q. Ms. Kothari, you testified earlier today that -- I'm
18 sorry. Earlier yesterday that it's your understanding
19 one of the reasons the first Presidential Permit
20 Application was denied was concern about the route in
21 Nebraska; is that correct?

22 A. Yes.

23 Q. Would you describe what that routing concern was.

24 MR. WHITE: Objection. We explored this issue
25 in detail yesterday.

1 MS. BAKER: We're just asking some follow up,
2 just expand a little bit on previous testimony for
3 recross.

4 MR. WHITE: Also objection on relevance grounds
5 to the Nebraska routing in a South Dakota proceeding.

6 MS. BAKER: We will establish the relevance.

7 MR. SMITH: I'm going to overrule and let you --
8 keep it crisp, okay, please.

9 MS. BAKER: Okay.

10 Q. What were the routing concerns in Nebraska?

11 A. Specifically related to the sand hills area in
12 Nebraska.

13 Q. Okay. So what adjustments were made to the route?

14 A. The route was deviated out of the Nebraska
15 Department of Quality definition of the sand hills.

16 Q. So is it fair to say the route adjustments were made
17 to avoid highly permeable sands?

18 A. The route adjustments were made based on concerns
19 expressed by the government of Nebraska related to the
20 sand hills.

21 Q. Okay. So to avoid the sand hills.

22 A. Correct.

23 Q. Okay. Why are the sand hills a concern?

24 A. It is a ecologically sensitive area to the people
25 and the government of Nebraska.

1 Q. So they're not a concern because of safety reasons
2 related to the pipeline?

3 A. No. We had very specific designs related to
4 crossing those particular areas and methods to be able to
5 achieve that.

6 Q. Are you aware of the location of Tripp County in
7 South Dakota?

8 A. I am.

9 Q. Can you tell us roughly where it's located?

10 A. I don't have a map.

11 Q. Is it on the border of Nebraska?

12 MR. WHITE: Objection. These questions were
13 specifically asked yesterday. We're now going over the
14 exact same ground we covered yesterday.

15 MR. SMITH: These were specifically asked so you
16 don't need to lay a foundation.

17 Q. Does Tripp County contain highly permeable sands?

18 A. I believe Ms. Tillquist responded to those specific
19 questions regarding the sands.

20 Q. Okay. And based on your understanding, they are
21 permeable sands?

22 A. Based on my understanding.

23 Q. Finding No. 48 addresses that the project will pass
24 through areas where shallow and surficial aquifers will
25 exist. Since the pipeline will be buried at a shallow

1 depth, it is unlikely that operation or construction of
2 the pipeline will alter the yield from any aquifers.
3 Keystone shall investigate shallow ground water when it
4 is encountered. Appropriate measures will be implemented
5 to prevent ground water contamination. Steps will be
6 taken to manage the flow of any ground water.

7 That's a summarization of 48.

8 53 states, though, that the Commission,
9 nevertheless, finds that the sand hills area and the High
10 Plains Aquifer in southern Tripp County is an area of
11 vulnerability that warrants additional vigilance and
12 attention in Keystone's integrity management and
13 emergency response training and implementation process.

14 Does the highly permeable sands overlay the High
15 Plains Aquifer?

16 A. I'm not specifically sure of that. I believe
17 Ms. Tillquist responded to that.

18 Q. Okay. Are highly permeable sands an engineering
19 concern?

20 A. They're a concern related to risk assessment, as
21 well as to fate and transport analysis.

22 Q. Okay. Are those engineering concerns?

23 A. They are concerns that are taken into consideration
24 when developing the integrity management program and the
25 Emergency Response Plan. They're aspects of technical

1 matters incorporated in that, but specifically not within
2 my specific scope.

3 Q. We heard from Ms. Tillquist the other day that an
4 alternative route was reviewed for a portion of the
5 pipeline that would cross through Tripp County.

6 Is that your understanding?

7 A. Yes.

8 Q. And were you involved in the review of an
9 alternative route?

10 A. Yes.

11 Q. How many routes were evaluated?

12 A. We originally, as discussed yesterday -- the routing
13 in that area went through the Colome source water
14 protection area. The route was subsequently shifted
15 approximately 175 feet from the edge of that buffer to
16 essentially have the route approximately 1,000 feet from
17 the wellhead itself.

18 Q. So how many alternatives were considered?

19 A. One alternative.

20 Q. There was no I-90 corridor alternative?

21 A. I don't recall that specifically.

22 Q. Is it your testimony that no alternative route was
23 considered to take into account the permeable sands and
24 the erosion factor associated with those permeable sands?

25 A. Our specific Construction Mitigation Reclamation

1 Plan deals with constructability through those particular
2 types of soils. So the route considered that as part
3 of -- or our designs considered those specific soils
4 based on our CMR plans.

5 Q. The question was whether any alternative was
6 considered to avoid or pass through less area that was
7 permeable sands.

8 A. That's part of the routing process. It's an
9 iterative process where we lay various constraints,
10 mapping constraints, and then look at routing to avoid
11 various features. So that was considered as part of the
12 original routing.

13 Q. So there was a route alternative that would have
14 avoided quite a bit of these things?

15 A. What I'm saying is that as part of the routing
16 process constraints are overlaid, and any specific types
17 of sensitive areas are minimized as part of the routing
18 process to have the maximum avoidance based on overlaying
19 multiple different constraints.

20 Q. Okay. So the question was whether there was an
21 alternative?

22 A. I believe I addressed that we had a -- we reviewed
23 an alternative and made that change.

24 Q. An alternative that avoids the sands?

25 A. An alternative that minimized the distance -- or

1 sorry. Maximized the distance from that wellhead.

2 Q. And I'm actually not talking about a wellhead. I'm
3 talking about the permeable sands.

4 A. The current route avoids the maximum permeable sands
5 with various other constraints overlaid on top of it.

6 Q. You testified that there was at least one route
7 alternative considered. Did that or any other route
8 alternative significantly avoid the sand hills, the
9 permeable sands?

10 MR. WHITE: Objection. Asked and answered
11 multiple times.

12 MS. BAKER: I'm afraid she hasn't actually
13 answered this question. She has expanded on
14 considerations that were made, but she hasn't actually
15 answered whether or not there was an alternative route
16 considered. And that's the question.

17 MR. SMITH: Overruled.

18 A. There was an original route, and then a route change
19 was made in January of 2009 as discussed yesterday.

20 Q. You testified previously that the pipe for the
21 pipeline is currently at the manufacturing yards; is that
22 correct?

23 A. The manufacturing yards as well as the Gascoyne site
24 that we discussed yesterday.

25 Q. Okay. Has all of the pipe that's going to be needed

1 for the pipeline been purchased already?

2 A. I believe all of it, except some additional
3 materials that were required to facilitate some of the
4 new routing in Nebraska. That has not been purchased.

5 Q. Okay. So everything for South Dakota has been
6 purchased?

7 A. That is my understanding.

8 Q. Okay. Is it normal to purchase all of the pipe
9 before the engineering has been completed?

10 A. The pipe is purchased as part of the detailed
11 engineering in the early onset of that engineering.

12 Q. Is that standard practice?

13 A. Yes.

14 Q. And was it your testimony earlier that the
15 engineering for the pipeline is not yet complete?

16 A. The engineering for the pipeline is mostly complete.
17 There are a couple areas where we need to do some
18 additional work as it relates to finalizing specific
19 plans.

20 Q. Did TransCanada buy all of the pipe for the Keystone
21 base pipeline prior to completion of the engineering?

22 A. Yes.

23 MR. WHITE: Objection. There were no questions
24 yesterday on the purchasing of the pipe in advance of
25 construction. This is new area.

1 MR. SMITH: Sustained.

2 MR. ELLISON: There was indeed testimony about
3 the obtaining of pipe, manufacturing of pipe prior to
4 construction. It seems to me that that would be in a
5 related area.

6 MR. SMITH: And can you remind us --

7 MR. ELLISON: This had to do -- you may
8 remember, Mr. Smith, we had the discussion that ended up
9 with the photographs of the pipes in the fields,
10 discussion about pipes being manufactured.

11 MR. SMITH: Right. But we're not talking about
12 that here. We're talking about recross here.

13 MR. ELLISON: I do understand, but I raised
14 questions, and recross allows -- I raised questions, and
15 recross allows related questioning from any other party
16 that has raised a question that a party has not had a
17 chance to --

18 MR. WHITE: Those questions were about pipe
19 storage. This is not related to pipe storage.

20 MR. BLACKBURN: If I may, Mr. Smith, I intend to
21 ask some limited questions about that too. I believe it
22 goes to the credibility of the witness about her
23 knowledge about those things.

24 I think particularly since the answers I
25 received were not accurate, I would like to explore a

1 little bit more about why that was.

2 And, frankly, procurement, as everybody knows,
3 is simply part of, you know, acquisition and storage of
4 pipe. With all due respect to Mr. White, if somebody's
5 involved in procurement, then they're much more likely to
6 know what's going on with the location of the pipe and
7 where it's stored and how fast it's acquired and when
8 it's acquired.

9 MR. WHITE: Those would have been good questions
10 on cross, but they were not raised on cross. Now we're
11 in followup on a brand new area.

12 MR. BLACKBURN: If the witness had told me
13 accurately what the situation was, maybe they would be,
14 but she didn't.

15 MR. WHITE: Move to strike the characterization
16 of the testimony as inaccurate.

17 MR. SMITH: Sustained. And we'll strike the
18 characterization.

19 MR. BLACKBURN: I would like to voice an
20 objection to that. She told me there was no pipe located
21 anywhere except for two pipe mills. That's in the
22 record. And, in fact, there was pipe in North Dakota.

23 That is clearly in the record. That is
24 inaccurate. Simply inaccurate. I asked specifically
25 where it was located, and she said two pipe mills.

1 MR. WHITE: Move to strike counsel's testimony.

2 MR. BLACKBURN: That's what she said.

3 COMMISSIONER HANSON: We're done.

4 MR. SMITH: We're done. We explicitly explored
5 the North Dakota situation.

6 MR. CAPOSSELA: That's why it's okay for
7 redirect.

8 MR. ELLISON: Exactly.

9 COMMISSIONER HANSON: You have your opportunity
10 at redirect.

11 MS. CRAVEN: IEN joins that objection too.

12 MR. BLACKBURN: I haven't done redirect.

13 COMMISSIONER HANSON: I know. That's what I
14 said.

15 Q. Ms. Kothari, the media advisory that was attached to
16 your testimony states "The company recognizes it needs to
17 take more steps to assure the public and stakeholders
18 that the parameters of the Special Permit would result in
19 a safer pipeline."

20 Is that correct?

21 A. Yes. That's what it states.

22 Q. Does this mean that the safety standards that exists
23 without the Special Permit Conditions are not safe
24 enough?

25 A. No.

1 Q. So what does TransCanada mean when it included that
2 statement in its advisory?

3 A. I did not write this advisory.

4 Q. Okay. Can you explain why it was attached as an
5 exhibit to your prefiled testimony?

6 MR. WHITE: Objection. This exact question was
7 asked yesterday. Same question.

8 MR. SMITH: Sustained.

9 Q. Is Dan King your supervisor in any capacity?

10 A. No.

11 Q. What's your employment relationship to Mr. King?

12 A. Mr. King is the vice president of engineering and
13 asset reliability.

14 Q. So your position doesn't fall anywhere under the
15 chart underneath his position?

16 A. I report to Mr. Goulet.

17 Q. What was your employment relationship to Mr. King
18 prior to your transition into your new position?

19 A. I report to Mr. Goulet in my position on Keystone.
20 In my new position I report to another vice president.

21 Q. And which vice president is that?

22 A. Ed Scheibelhut.

23 Q. I'm sorry. Could you repeat that?

24 A. Ed Scheibelhut.

25 Q. What is APEGA or A-P-E-G-A?

1 A. It's the Association of Professional Engineers and
2 Geoscientists.

3 Q. Under the APEGA Act are you required to pass an exam
4 in order to be licensed as an engineer?

5 MR. WHITE: Objection. The same question was
6 asked yesterday.

7 MR. ELLISON: It was not in relationship to this
8 particular program.

9 MR. SMITH: I don't recall that being asked. I
10 do not recall that being asked yesterday.

11 CHAIRMAN NELSON: Overruled. Let's go.

12 MR. SMITH: Overruled.

13 MR. CAPOSSELA: Briefly, Mr. Smith.

14 There have been several instances already this
15 morning when counsel has characterized questions having
16 been asked and issues as having been discussed yesterday
17 which I do not believe have been.

18 And so I think that some attention should be
19 paid to that contention when it's made for objections to
20 this redirect.

21 Thank you for letting me make that point.

22 MR. SMITH: Yep. I don't recall that being
23 asked yesterday. Now I'm not -- I'm an old man so maybe
24 I just don't remember, but you may proceed.

25 CHAIRMAN NELSON: John, overruled. Let's go.

1 MR. SMITH: Overruled. Proceed.

2 Q. I'll repeat that.

3 Under the APEGA Act are you required to pass an exam
4 in order to be licensed as an engineer?

5 A. Yes.

6 Q. Does that exam test your knowledge of design,
7 construction, and inspection as those areas relate to
8 engineering?

9 A. No.

10 Q. I'm sorry. What does that exam test?

11 A. The Canadian exam is an ethics exam that involves
12 specific scenario questions with engineering principles
13 and a multiple choice exam to that effect.

14 Q. So it strictly covers ethics?

15 A. Yes.

16 Q. And is it ethics pertaining to design, construction,
17 and inspection?

18 A. It's ethics in general to the practice of
19 engineering.

20 Q. Okay. And does the practice of engineering include
21 all three of those: Design, construction, and
22 inspection?

23 A. It could. It depends on what specific engineering
24 is required for those particular aspects.

25 Q. So this exam would cover -- would cover questions

1 that address design, construction, and inspection?

2 A. I'm not specifically aware to -- if that's how APEGA
3 categorizes their examinations.

4 What I do recall from the examination is that
5 specific scenarios were posed, and answers were available
6 for choice in terms of the response.

7 Q. Do you recall whether those questions related to all
8 three of those areas of engineering?

9 A. They related to multiple different scenarios of
10 engineering.

11 Q. Okay. You testified yesterday about the Mni Wiconi
12 water line that would be crossed by the proposed Keystone
13 project.

14 Do you know who owns the Mni Wiconi water line?

15 A. I believe it's the -- I'm not sure who owns it. I
16 do know that the Oglala Sioux Rural Water System supply
17 is the entity for that particular water line.

18 Q. Are you aware that the Mni Wiconi is held in trust
19 by the United States for the benefit of several Indian
20 Tribes?

21 A. My understanding is the Bureau of Reclamation is the
22 entity that -- for that.

23 Q. So are you aware that it's held in trust for several
24 Tribes?

25 A. I'm not specifically aware.

1 Q. As a matter of professional ethics, if you knew that
2 Tribes were involved in this issue, did it not concern
3 you that the legal beneficiary of the trust -- the Tribes
4 were not involved, to your knowledge, in the meetings
5 about the potential crossings or the crossing criteria?

6 A. I'm not aware specifically. I'm not involved in
7 making those specific relationships. That's part of the
8 TransCanada aboriginal relations team.

9 Q. You testified yesterday that you're not a
10 professional witness; is that correct?

11 A. Correct.

12 Q. How many court or administrative proceedings other
13 than this one have you testified in?

14 A. Three.

15 Q. Are you being paid to be here today to testify?

16 A. I'm employed by TransCanada.

17 Q. That does not answer the question. I'm sorry.

18 Are you being paid to be here today to testify?

19 A. I'm employed by TransCanada. I'm not being paid
20 today, but I am salaried by TransCanada.

21 MS. BAKER: Okay. Nothing further. Thank you.

22 MR. SMITH: Mr. Blackburn.

23 RECROSS-EXAMINATION

24 BY MR. BLACKBURN:

25 Q. Good morning.

1 A. Good morning.

2 Q. How many people do you directly supervise?

3 A. I do not supervise anyone at this time.

4 Q. Thank you. During the Keystone XL -- during your
5 responsibilities on the Keystone XL Pipeline project how
6 many people did you directly supervise?

7 A. I would say probably 10 to 15 people.

8 Q. Thank you. Does TransCanada make its own pipe steel
9 for its pipes including the proposed Keystone XL
10 Pipeline, or does it procure that steel?

11 A. It procures that steel.

12 Q. Were you involved in the procurement process for
13 that steel?

14 A. I was involved in providing technical requirements
15 or project requirements for that.

16 Q. Did that job -- did that responsibility include
17 generally knowing when pipe was -- when it was ordered
18 and when it was delivered?

19 A. Generally.

20 Q. Generally. Do you know approximately the value of
21 the pipe steel that was purchased for the Keystone XL
22 Pipeline today?

23 A. I do not know offhand.

24 Q. Could you give me an order of magnitude?

25 A. I could not.

1 Q. Over a billion dollars?

2 A. I could not give you an order of magnitude.

3 Q. Any approximation?

4 MR. WHITE: Asked and answered. Objection.

5 MR. SMITH: Sustained.

6 Q. You also testified about a lot of areas where you're
7 not -- that were not your specialty. When you were an
8 engineer for TransCanada back in the early 2000s, I
9 believe you said when we first started, did you have any
10 specialty, any particular area of engineering for
11 pipelines that you focused on in your employment?

12 A. No. I was a generalist, training under multiple
13 different engineers to understand different
14 disciplines.

15 Q. Do you consider yourself an expert in any particular
16 aspect of pipeline engineering?

17 A. No. I'm a generalist.

18 Q. Thank you. And I can't remember if this was asked,
19 but it's a simple question. Are you here today to
20 testify with regard to oil spill cleanup?

21 A. I am not.

22 Q. Thank you. And I would like to talk about the pipe
23 mills a little bit and the location of the pipe.

24 You said that the pipe -- I believe yesterday you
25 testified that there were two pipe mills that provided

1 pipe for the -- that have provided pipe for the Keystone
2 XL project; is that correct?

3 A. Yes.

4 Q. And I also believe you testified you didn't remember
5 the names of those mills?

6 A. Yes.

7 Q. Just to be clear, is one of those mills the Welspun
8 mill in Arkansas?

9 A. I believe it is.

10 Q. Is another mill the Shaw mill in Regina,
11 Saskatchewan?

12 A. The Shaw plant is -- it's a coating facility.

13 Q. Right. Is the Arkansas facility a coating facility,
14 or do they actually fabricate pipe there?

15 A. They fabricate pipe there.

16 Q. Is the steel plate used in the fabrication produced
17 in Arkansas?

18 A. It's produced in multiple different places.

19 Q. Thank you.

20 Have you visited either of those facilities?

21 A. Not recently.

22 Q. So you have visited them at some point?

23 A. At some point.

24 Q. Okay. During the course of the Keystone XL project
25 did you visit them?

1 A. I believe so.

2 Q. You testified that -- and correct me if I'm wrong
3 but that when the FBE, the fusion bond epoxy, is applied
4 to the pipes at the pipe coating mills that extra
5 thickness of FBE beyond specification is applied to the
6 pipes?

7 A. I testified that there is a range of coating
8 thickness to be applied to the pipe. There's a
9 particular specification for the minimum and maximum
10 amounts.

11 Q. And why is there a maximum coating thickness
12 specification? Do you know?

13 A. It generally has to do with coating flexibility.

14 Q. Right. Do you know today what that specification
15 is?

16 A. Yes.

17 Q. What is the specification?

18 A. It's generally 14 to 20 mils.

19 Q. Okay. And TransCanada is concerned about protection
20 of the FBE so it doesn't degrade? That's correct?

21 A. It's a preservation method, yes.

22 Q. Uh-huh. Could you describe the -- and you described
23 some generally yesterday that the paint essentially was
24 applied to protect the FBE from UV radiation, just since
25 we're all starting up again this morning.

1 Could you describe the process of applying that
2 protection?

3 A. It's just a crude that applies the paint with a
4 paint gun.

5 Q. There's no surface preparation before application?

6 A. No.

7 Q. Okay. Is there any inspection of the FBE before
8 it's coated?

9 A. I'm not aware of any specific inspection. They may
10 check coating thickness just for reference. But all the
11 inspections are done prior to the pipe moving into
12 stockpile yards.

13 Q. So you said there might be some inspection with --
14 to determine the thickness of the coating?

15 A. Potentially. It's not required when completing that
16 particular application.

17 Q. Have you witnessed this testing being done on pipe?

18 A. I have.

19 Q. What's the equipment used to test thickness?

20 A. There's a specific equipment which you press down on
21 to the surface of the coating, and it will read out the
22 thickness.

23 Q. So that reads in spot locations; is that correct?

24 A. Correct.

25 Q. So the entire surface of a pipe is not checked by

1 that equipment.

2 A. The equipment is used to check multiple areas along
3 the entire circumference and length of the pipe.

4 Q. Could you say what a Holiday is?

5 A. It's a disbondment in the coating.

6 Q. Right. So the thickness testing is not meant to
7 locate Holidays.

8 A. No, it is not.

9 Q. Just I'm not sure, but is the testing equipment
10 capable of distinguishing between the thickness of the
11 coating and the thickness of the protective paint that
12 goes on it?

13 A. I'm sure it is.

14 Q. Do you know the rate of -- and you also testified
15 that UV coating might damage a few mils, I believe is the
16 term. Could you say what a mil is of FBE and might that
17 not be a problem?

18 A. I don't know the conversion offhand, but I
19 believe -- I think it's 1 mil -- or 1 mil equals
20 one-fortieth of a millimeter.

21 Q. And you testified that some loss of coating was not
22 a problem; is that correct?

23 A. Yes.

24 Q. As long as it's above the specification, you said
25 14 to 20 mils is the spec.?

1 A. That's right. And I also testified that if there
2 was an issue, that that pipe would be blasted and
3 recoated.

4 Q. Uh-huh.

5 Q. Do you know the rate of degradation of FBE when
6 exposed to UV radiation over time?

7 A. I do not know specifically. I am aware that it's
8 generally very minimal and it's over a long prolonged
9 time frame.

10 Q. Do you have any guidelines from the FBE manufacturer
11 about that?

12 A. I do not.

13 Q. Any warranties related to UV exposure with regard to
14 voiding of warranties or guarantees for FBE?

15 A. I'm not aware specifically.

16 Q. I also believe you testified -- one more set here.
17 You testified about some of the hydro testing of the base
18 Keystone Pipeline; is that correct?

19 A. I don't recall that specifically.

20 Q. Since hydro testing is such an important part of the
21 project development process, the project -- the
22 completion of the project, could you briefly describe
23 what hydro testing is?

24 A. Hydrostatic testing is the process whereby we fill
25 the pipe with water and pressurize it up to 125 percent

1 of its maximum operating pressure. That pressure is --
2 that testing sequence is maintained for a specific length
3 of time to verify the pipe's integrity after it has been
4 installed in the trench and backfilled.

5 Q. Is the primary purpose of a hydro test to determine
6 if a pipe will rupture?

7 A. The primary purpose of the hydro test is the final
8 quality check for that pipeline once all of the
9 particular construction activities have taken place.

10 MR. WHITE: Mr. Smith, I'm going to renew my
11 objection to offering Intervenors a brand new opportunity
12 on cross-examination on virtually any issue that was
13 remotely touched upon the first and second day of
14 Ms. Kothari's testimony.

15 MR. SMITH: Sustained.

16 And let's keep it to things that relate to
17 cross-examination. We're going over -- just reploting
18 the same ground here, you know, in my view.

19 MR. BLACKBURN: No more questions.

20 MR. HARTER: Mr. Smith, John Harter. My
21 understanding was when we got to redirect again it was
22 from questions that were asked.

23 Is that true?

24 MR. SMITH: Recross you mean? Yes.

25 MR. HARTER: I believe, in my opinion, that the

1 reason a lot of this is happening is because of evasive
2 answers that we're getting, and I think that should be
3 taken into consideration.

4 Thank you.

5 MR. SMITH: Okay. We'll move on to Mr. Ellison,
6 Mr. Martinez.

7 RE CROSS-EXAMINATION

8 BY MR. ELLISON:

9 Q. Good morning again, Ms. Kothari.

10 A. Good morning.

11 Q. Ma'am, you mentioned -- and I can't remember who
12 asked you, but you mentioned that the FSEIS contains
13 information detailing the 14 spills of the Keystone base
14 pipeline in the first year of operation.

15 I wonder if you could tell me which section it is
16 because I couldn't find it.

17 A. I didn't write the reference down this morning. I
18 don't have the reference number for you.

19 Q. Can you provide that to us and this Commission
20 before you leave to go back to wherever you go?

21 A. I can.

22 Q. Thank you.

23 MR. ELLISON: One of the things I would like to
24 request orally because it did come up yesterday and I am
25 concerned -- I think we need verification in terms of

1 veracity, and that is at this time I would orally move
2 for disclosure of work orders or other documents of
3 TransCanada which would verify that the surface coating
4 of the pipe that had been laying out for two years in
5 North Dakota was, in fact, completed in July of 2013.

6 This issue had not come up before the testimony
7 of this witness, and, therefore was not thought to be an
8 issue in -- for us to request disclosure.

9 So I would at this time like to make that
10 request orally. I would not ask that the witness be
11 brought back, but if there can't be verification, it
12 would prove its own point. If there is verification, it
13 would prove that point too.

14 And TransCanada's a big company. They've got
15 lots of computers. They could easily have it for us by
16 Monday.

17 MR. WHITE: Objection to that. Discovery ended
18 a long time ago. We provided multiple gigabytes of
19 discovery material in response to questions from
20 Intervenors. The opportunity is closed.

21 MR. ELLISON: Not on this issue. We didn't even
22 know the paint issue was going to come up. We didn't
23 know the storage issue was going to up to come up until
24 it was brought up by this witness.

25 MR. WHITE: You have expert witnesses that could

1 have advised you on all kinds of issues, and you pursued
2 multiple issues.

3 MR. ELLISON: We know that TransCanada is doing
4 its best to interfere with the discovery process. This
5 is a very reasonable request. It's a very usual process
6 that happens during any trial when something new comes up
7 that's brought up, especially by, in this case, an
8 Applicant's witness, in this case a very important
9 Applicant witness.

10 It very much goes to her credibility.

11 MR. WHITE: Just to add one more point, I would
12 note that the photos of the pipe yards that were
13 introduced yesterday came from 2013. So obviously they
14 were aware of this issue well before the hearing started.

15 MR. ELLISON: We didn't know there was going to
16 be --

17 COMMISSIONER HANSON: Excuse me.

18 Ms. Kothari, I don't recall your testimony on
19 this. Did you testify that that pipe or would you now
20 testify, is that pipe that's stored in North Dakota
21 intended to be laid in South Dakota?

22 THE WITNESS: There are portions of that
23 material that could be laid in South Dakota.

24 COMMISSIONER HANSON: All right. Thank you.

25 MR. SMITH: I just don't -- we don't see

1 discovery, you know, so we don't have a clue. But were
2 the pipe photos -- were pipe photos disclosed to them in
3 discovery, Mr. White? The pipe yard, storage yards?

4 MR. WHITE: Well, I don't remember every of the
5 2,000 discovery requests that we got, but I don't recall
6 being asked for pipe photos, but obviously they had pipe
7 photos from 2013. We saw them yesterday.

8 MR. SMITH: They did. Yes. Yeah.

9 (Pause)

10 MR. SMITH: We're going to sustain the objection
11 and deny -- you guys had your own photos. You've had
12 them forever. You knew this -- this was an issue for
13 you, and yet no discovery was undertaken with regard to
14 this.

15 MR. ELLISON: We had photos. We had no
16 information as to when the painting was done. We only
17 knew that at least as of May 2013 it had not been done.
18 We had not planned to introduce those photographs.

19 MR. SMITH: You had them, and you had the right
20 in discovery to ask questions about them.

21 CHAIRMAN NELSON: Let's move on.

22 MR. SMITH: We're moving on.

23 MR. ELLISON: All right. Very good. The record
24 will speak for itself.

25 Q. Ma'am, you testified that you did not design

1 pipelines, particularly the XL base pipeline or the Gulf
2 Coast Pipeline or even the KXL Pipeline; is that right?

3 A. That's correct.

4 Q. Did you specify back bevel transitions to join heavy
5 wall to light wall pipe?

6 A. I did not specify that.

7 Q. You mentioned, ma'am, that -- that one of the things
8 this Commission should rely upon is the fact that since
9 the cathodic near disaster by the Missouri River by
10 St. Louis -- I'm sorry, Mississippi River by St. Louis
11 had not recurred, that that should give this Commission
12 some comfort.

13 Do you know how long it was that the Enbridge pipe
14 was in place before it ruptured in Kalamazoo?

15 MR. WHITE: Objection. Argumentative. And
16 object to the characterization of a near disaster. No
17 facts to support that.

18 Q. Okay. Putting aside the near disaster component,
19 how long was the Enbridge pipe in place before there was
20 the spill in Kalamazoo?

21 A. I don't know the specific vintage of that pipeline.

22 Q. What about the spill earlier this year in
23 Yellowstone? How long had that pipe been in before it
24 ruptured in the Yellowstone River?

25 A. I don't know the vintage of that pipeline.

1 Q. How long had the pipeline that ruptured on the
2 Santa Barbara Coast this year, how long had that been in
3 place before it ruptured?

4 MR. WHITE: Objection. There's been no
5 testimony on a pipeline on Santa Barbara Coast from this
6 witness.

7 MR. SMITH: Sustained.

8 MR. ELLISON: Okay. That's all the questions I
9 have.

10 MR. SMITH: I think we're on Ms. Craven.

11 MR. ELLISON: I'm sorry. I do have one other
12 question.

13 Q. In response to the question from Commissioner Nelson
14 about the diagram showing the HDD under -- I can't
15 remember which river it was. The White River. Thank
16 you. Showing a 90 degree bend in the pipe, would you
17 tell us how that is engineeringly possible to pull that
18 pipe through the HDD hole and make a 90 degree bend
19 without causing extreme damage or, you know, issues
20 related to the integrity of that pipe?

21 MR. WHITE: Objection. There was no question
22 about a 90 degree bend yesterday.

23 MR. SMITH: Sustained.

24 MR. ELLISON: There was exactly.

25 MR. SMITH: There was not.

1 CHAIRMAN NELSON: My question clearly specified
2 a 45 -- two 45 degree bends.

3 MR. ELLISON: Thank you. I appreciate the
4 correction. I misremembered.

5 Q. Could you explain, ma'am, how that pipe can be
6 pulled through at two 45 degree angles?

7 A. I had an opportunity to review the drawing after
8 Commissioner Nelson's question yesterday. The specific
9 location that the Commissioner was referencing is an
10 approach to the entry point at the HDD.

11 If you back the route up further upstream from that
12 particular location, we cross a road and then have to
13 approach into the specific crossing location for the
14 White River. And to straighten out that crossing we
15 gradually use horizontal field bending that approaches
16 into two 45 degrees to the entry of that HDD.

17 Upon reviewing the drawings, there are no specific
18 bends within the actual drill path itself. It is a
19 standard drill, and the specific locations that were
20 referenced are on the approach to the entry of the drill
21 above ground.

22 Q. And, ma'am, would you agree you give that opinion as
23 a noncertified American engineer?

24 A. That's based on my review of the drawing.

25 Q. Did you --

1 MR. ELLISON: Could you please repeat the
2 question?

3 (Reporter reads back the last question.)

4 MR. WHITE: Objection. That question has been
5 asked and answered multiple times.

6 MR. ELLISON: Not to this opinion.

7 MR. WHITE: Her credentials are what her
8 credentials are. They don't change --

9 MR. ELLISON: Mr. White, I'm not asking for your
10 testimony. I'm questioning the witness. It's a very
11 appropriate question to this specific issue that has not
12 been asked before.

13 COMMISSIONER HANSON: Please address your
14 remarks to Mr. Smith on objections and such.

15 MR. ELLISON: Again, I apologize.

16 MR. SMITH: She has gone over her credentials in
17 detail.

18 Again, can you ask the question without that
19 snotty crap in there? Just ask the question. Huh?

20 MR. ELLISON: I purely object to the
21 characterization.

22 Q. You are not currently and have not been for the last
23 five years certified to be an engineer within the
24 United States to perform engineering services within the
25 United States; is that correct?

1 MR. WHITE: Objection. Asked and answered
2 multiple times.

3 MR. SMITH: And I apologize, Mr. Ellison, for my
4 remark. I guess I'm getting tired here.

5 MR. ELLISON: We all are, sir.

6 MR. WHITE: And I renew the objection as asked
7 and answered.

8 MR. SMITH: Yeah. It has been asked and
9 answered. So sustained.

10 MR. ELLISON: Well, I would move to strike the
11 answer and all -- basically all of the testimony of this
12 witness as to any engineering questions. Because if she
13 is not a certified U.S. engineer, she is unqualified and
14 incompetent to render any opinions about any engineering
15 planned to be implemented by TransCanada within the
16 United States.

17 MR. SMITH: Overruled.

18 MR. ELLISON: I have no further questions.

19 MS. CRAVEN: And, for the record, IEN objects to
20 that.

21 MR. RAPPOLD: As does Rosebud.

22 MR. CLARK: Cheyenne River Sioux Tribe also
23 joins in the objection.

24 MS. REAL BIRD: Yankton joins.

25 MR. GOUGH: InterTribal joins in the objection.

1 MR. HARTER: John Harter joins in the objection.

2 MS. LONE EAGLE: Elizabeth Lone Eagle joins in
3 the objection.

4 MR. SMITH: When you say "objection" are you
5 referring to the motion to strike?

6 MR. ELLISON: Yes.

7 MS. CRAVEN: And to her credentials to testify
8 as an expert witness in engineering.

9 RE-CROSS-EXAMINATION

10 BY MS. CRAVEN:

11 Q. Kimberly Craven for the Indigenous Environmental
12 Network.

13 So yesterday, Ms. Kothari, you provided the
14 mileposts for the Mni Wiconi Pipeline. Could you repeat
15 those for me, please.

16 A. I believe it was milepost 471 and milepost 514.

17 Q. And what are you looking at as you're providing
18 those answers?

19 You're looking down at something. What is that?

20 A. It's just a piece of paper that I have the mileposts
21 written on.

22 Q. So do you have a basic understanding of federal
23 Indian Law?

24 A. I do not.

25 Q. Okay. So when someone says to you that a pipeline

1 is held in trust for the Oglala Sioux Tribe do you know
2 what that means?

3 A. I do not specifically.

4 Q. Okay. Thank you very much.

5 My other question is yesterday you provided some
6 really great answers to the Commission Staff's questions
7 that were posed to you.

8 Had you been prepped or provided those questions
9 before they asked them to you?

10 MR. WHITE: Objection. Violates attorney-client
11 privilege.

12 MS. CRAVEN: She has no attorney-client
13 privilege with the Commission Staff.

14 MR. SMITH: Overruled.

15 Q. So could she ask -- the question? Were you prepped
16 by the Commission Staff with those questions?

17 A. No.

18 Q. Were you provided those questions so you could
19 prepare for them?

20 A. No.

21 Q. Did you have any conversations with them prior to
22 answering them?

23 A. No.

24 MS. CRAVEN: Okay. Thank you. That's all my
25 questions.

1 MR. SMITH: Next is Mr. Gough.

2 RE-CROSS-EXAMINATION

3 BY MR. GOUGH:

4 Q. Thank you. Good morning.

5 MR. GOUGH: Mr. Smith, I would like to ask if
6 it's possible to get a -- require the Commission to show
7 us the drawing that was in discussion with Commissioner
8 Nelson's question.

9 MR. SMITH: I think it's in the record.

10 MR. GOUGH: I waved my hand yesterday to try to
11 get it up on the screen. A lot of discussion around it.

12 MR. SMITH: You did, but I didn't want to
13 interrupt because she was right in the middle of her
14 answer.

15 I saw you doing that. I agree. But I didn't
16 want to be rude and obstruct.

17 MR. GOUGH: Well, I didn't want to be
18 repetitive, but I knew if we didn't do it then, we'd have
19 to do it today.

20 CHAIRMAN NELSON: It's in the original
21 Application. That's where I found it.

22 MR. SMITH: It's like -- it's the last addendum
23 or whatever it is to it. I don't have it up on my
24 screen.

25 MR. GOUGH: The '09 Application.

1 CHAIRMAN NELSON: Correct.

2 MS. EDWARDS: This is Kristen Edwards from
3 Staff. If it helps, it's Exhibit C-1, entitled Lyman
4 County in HP09-001.

5 MR. GOUGH: Thank you. I will bring that up.

6 MR. WHITE: Ms. Edwards, could you repeat the
7 exhibit number, please.

8 MS. EDWARDS: Exhibit C of the original
9 Application. Lyman County.

10 MR. WHITE: Thank you.

11 Q. And I can see Mr. Ellison's difficulty in that
12 ultimately two 45 degree angles do make a 90 degree angle
13 so I can understand the mistake that was made in the
14 reference.

15 Are you able to see the diagram? Can you see the
16 diagram below the photograph? What is that detailing?

17 A. I'm sorry. Could you zoom in a little bit?

18 Sorry. What was your question?

19 Q. Can you see the diagram?

20 A. I can.

21 Q. Is this the diagram you were referring to in
22 Commissioner Nelson's question yesterday?

23 A. I have a more recent copy of this drawing.

24 Q. Does that vary in any way from this drawing?

25 A. I'd have to check. I don't know. It looks similar.

1 The item that the Commissioner was referencing is on the
2 left-hand side there.

3 Q. I'm sorry. Your statement?

4 A. I said I have a more recent version of this drawing.
5 I don't know the differences between the two, but they
6 look generally similar. I'd have to verify.

7 Q. But your testimony was from a different drawing than
8 this?

9 A. I had an opportunity to review the drawing -- the
10 most recent drawing that we have of this.

11 Q. And do you have that available as well?

12 A. I don't believe I have that with me here.

13 Q. Does your testimony from your other drawing apply
14 accurately and directly to this drawing?

15 A. I believe it would. I see a horizontal bend in the
16 left-hand corner of the drawing, and I believe that's
17 what the Commissioner was referencing to -- as I
18 mentioned previously, the pipeline is approaching into
19 the horizontal directional drill area between the entry
20 and exit point, and upstream of that entry there is a
21 gradual inflection in the pipeline and that's essentially
22 to align the pipe on approach to the entry point of the
23 drill.

24 Q. Could I ask you to please point it out to me on that
25 diagram?

1 A. (Indicating).

2 Q. Okay. That's the photograph. We've got a diagram
3 below that.

4 A. The diagram below is just the entry and pathway and
5 exit point of the drill.

6 Q. And would you point that out on that diagram?

7 A. It is not on the diagram.

8 Q. So your testimony yesterday was to a different map,
9 different photograph, and to something that's not on this
10 diagram?

11 A. I'm sorry. I don't understand your question.

12 Q. And I don't understand your answer.

13 You gave testimony yesterday, and it was ostensibly
14 now to a different diagram.

15 A. My testimony yesterday, my response was I'm not
16 sure. I haven't looked at that particular drawing, but I
17 could review. My testimony said that it could have been
18 a bend within the drill path itself, or it could have
19 been something related to the drawing.

20 Upon review of this drawing specifically, I see the
21 bend that the Commissioner was referencing, as I pointed
22 out. It is the approach. It is a horizontal field bend
23 to line up the approach for the drill.

24 Q. Okay. If I can stop you right there, that
25 particular section that you're talking about now, could

1 you identify that on the diagram?

2 A. It is not on the diagram. The diagram is strictly
3 the entry, pathway, and exit of the drill. The aerial
4 imagine above is the alignment of the pipeline inclusive
5 of the workspace that's required to stage the equipment
6 for the drilling.

7 The actual crossing and the temporary space required
8 to weld up and lay the pipe out for its entry into that
9 particular crossing as well as just some additional pipe,
10 image of the pipe approaching into the drill and exiting
11 and then continuing on on the main line.

12 Q. Yes. It's all of this exiting and continuing on
13 that I'm having trouble with, if that's not represented
14 somewhere on the diagram that sparked the Commissioner's
15 interest to wanting to know how you drag pipe through
16 holes that ultimately reach a 90 degree angle, two 45
17 degree angles under a river without damaging the pipe.

18 That, I believe, was the essence of the question, or
19 at least it was the essence of the question in my mind.
20 And I would like you to explain to me those points on the
21 diagram that were referenced in your response to the
22 Commissioner's question.

23 A. I believe I did reference the field bend in the
24 diagram.

25 Q. Show me the field bend. Point to me the field bend

1 on that diagram, please.

2 A. (Indicating).

3 Q. That's the aerial photograph. Would you point to me
4 the field bend on the diagram?

5 A. As I mentioned previously, the diagram is strictly
6 the drill path.

7 Q. The area you pointed to is not a 45 degree angle, at
8 least not from here. It was a 45 degree angle -- two
9 45 degree angle references.

10 Could you point to those, please, that at least in
11 your belief were the essence of the question that the
12 Commissioner asked?

13 A. I believe that was the essence of the question.

14 Q. Would you point to the bend that you are referring
15 to, please. Just point to it on the map, on the aerial
16 photograph.

17 A. (Indicating).

18 Q. And you are telling me that's a 45 degree angle?

19 A. That's the field bends that approach into the drill.
20 There are no other bends on this drawing.

21 Q. What size angle would you say that to be?

22 A. I don't know. I'd have to --

23 Q. You're an engineer. Can you estimate, please, for
24 me the angle that you pointed to on this map.

25 A. It's roughly 30 to 45 degrees.

1 Q. I live in a world of different geometry. I cannot
2 see a 45 degree angle on where you pointed, ma'am, with
3 all due respect.

4 MR. WHITE: Is there a question there?

5 MR. GOUGH: Yes.

6 Q. Could you show me the two segments, the two line
7 segments that make that angle on that aerial photograph
8 that you were pointing to?

9 A. (Indicating).

10 Q. And would you please now verbally describe -- that
11 was along the bluish line, it looks like from here?

12 A. Yes. It's along the blue line. It's gradual
13 horizontal bending of the pipe to approach into the entry
14 point of the drill.

15 Q. So the identification on that aerial photograph,
16 we're looking at the -- well, would you identify what
17 section that is verbally on that photograph so we have
18 that in the record, what you're pointing to?

19 A. If we could zoom in, there could be a mile marker
20 reference.

21 MS. DOUGLAS: Would you like it to zoom in
22 more?

23 A. So the station is identified as 28255 plus 31.
24 That's the -- the point of reference.

25 Q. Thank you. And your testimony is that that blue

1 line running horizontally across that photograph which
2 has a bend approximately in the middle at a point
3 marked -- again, the point marked?

4 A. 28255.

5 Q. That the angle coming and going from that point mark
6 is 45 degrees, more or less?

7 MR. WHITE: Objection. Asked and answered.

8 MR. GOUGH: I'm just trying to identify it on
9 the exhibit.

10 MR. SMITH: I'm going to overrule because to me
11 we've had some confusion here as to this. So I'll let
12 him explore it.

13 Q. Now is it not true that the pipe is also going to be
14 doing a vertical -- taking a vertical turn in its course
15 at or about that point?

16 A. No. This is horizontal. This is main line
17 trenching as we approach into the drill. The HDD entry
18 point to the exit point will be reamed out, and the pipe
19 will be installed at a specific lift angle to enter it
20 into the hole and have it exit. And those specific
21 angles of entry and exit are listed on the diagram.

22 Q. Thank you. And where does that entry point on that
23 map begin?

24 A. Where the box displays HDD entry.

25 Q. And could you please point to that on the map?

1 A. (Indicating).

2 Q. And if we could expand out and look at the diagram
3 below.

4 Is that point represented on the diagram below?

5 A. It is.

6 Q. That entry point?

7 A. It is.

8 Q. Sorry. And could you identify that point on the
9 diagram?

10 A. (Indicating).

11 Q. Is there a marker or something -- is there an
12 identification of the point on the map that you just --

13 A. Yes. It's below. It's referenced at -- and you'd
14 have to zoom in because I can't read that. If you could
15 scroll up, please.

16 It's 28265 as noted. It says "HDD entry point."

17 Q. And is there not an angle there that the pipe is
18 taking, a new angle?

19 A. The pipe is lifted to the specified angle and pulled
20 into the tunnel. It's a straight piece of pipe that is
21 welded up to the length of that particular tunnel, and it
22 is lifted in the air at a particular angle with equipment
23 and fed through that tunnel.

24 There are no bends within that pipe. The bends that
25 were referenced were above ground on approach to square

1 up to that crossing.

2 Q. Okay. But are there not bends that that pipe will
3 take once it enters the tunnel?

4 A. No. It follows the path that has been carved out
5 for that pipe.

6 Q. And is that path straight for its entirety?

7 A. No. There's a radius of curvature to that path.

8 Q. So the pipe will change shape going through that
9 path.

10 A. The pipe is installed through that path.

11 Q. That's not my question.

12 A. It does not change shape.

13 Q. The pipe continues on in a straight line, although
14 the path looks to be dipping down for some period, going
15 under the river for some period, and coming back up from
16 the ground for some period.

17 A. The pipe follows the path of curvature. The scale
18 of this drawing is 1 to 200.

19 Q. How do you get the straight pipe to follow the
20 curvature of the tunnel?

21 A. The pipe is flexible and follows the radius of
22 curvature to the tunnel.

23 Q. Is this not the same or similar pipe that we have
24 along the rest of the pipeline?

25 A. This pipe is of thicker material, thicker wall

1 thickness, but it is made of the same steel as that of
2 the rest of the pipeline.

3 Q. So it's thicker, yet more flexible?

4 A. Yes.

5 Q. How do you accomplish that engineering feat?

6 A. The pipeline -- the pipe for this particular
7 crossing is designed to withstand the pull forces
8 under -- to install it under the river.

9 Q. I can understand pull forces to bring something in a
10 straight line. I'm asking you with regard to the
11 flexibility of changing its curvature.

12 A. The pipe has that flexibility to be fed under the
13 river. It is supported by multiple pieces of equipment
14 and fed under the river through that process.

15 Q. And this pipe will obtain a curvature of basically
16 90 degrees ultimately?

17 A. I do not believe it's 90 degrees. There's no
18 reference to 90 degrees.

19 I think the drawing with the scale is perhaps an
20 exaggeration of that severity. It's a gradual
21 installation under the river.

22 Q. So this is not a reliable drawing to determine what
23 the angles are for the pipe that you're installing? Is
24 that what you're telling me?

25 A. That is not what I'm telling you.

1 Q. Can you look at the blue line in the diagram below
2 the aerial photograph and approximate the overall angle
3 of change from where it enters and where it exits the
4 tunnel, please.

5 A. The pipe enters at an angle of 10 degrees and exits
6 at an angle of 8 degrees. The radius of curvature as
7 depicted on the drawing is 3,600.

8 Q. The curvature is 3,600 degrees?

9 A. 3,600 feet.

10 Q. 3,600 feet.

11 The first two segments between the arrows on the
12 left-hand side once it enters the tunnel appears at least
13 on the diagram I'm looking at to be relatively -- a
14 relatively straight line; is that correct?

15 A. Yes.

16 Q. And the line segment between the two arrows on the
17 right-hand side approaching the exit also appear to be
18 two straight lines; is that correct?

19 A. Yes.

20 Q. They are two -- they are going in two different
21 directions; is that correct?

22 A. I'm not sure I follow.

23 Q. One appears to be heading -- if we were looking at
24 this on a map with a compass, coming from the northwest
25 to the southeast, and the other would appear to be coming

1 from the southwest to the northeast.

2 Would you agree with that?

3 A. Yes. Generally.

4 Q. Okay. Those two straight line segments, if you
5 continued those line segments on to the bottom of the
6 map, on to the bottom of the graph paper, on to the
7 bottom of the diagram, would they intersect at some
8 point?

9 A. Could you repeat the question?

10 Q. If you continued those line segments, the one on the
11 left at the entry point and instead of having the
12 curvature, have it continue straight and you did the same
13 thing for the exit segment and have it continue straight,
14 would those two lines intersect?

15 A. Yes.

16 Q. And what would the angle of intersection be of those
17 two lines?

18 A. I don't know.

19 Q. Could you approximate it? Go ahead and answer it.

20 A. Perhaps 90.

21 Q. Perhaps 90. 90 degrees?

22 A. Yes.

23 Q. So my earlier question, the overall change, the
24 overall angle that this pipe will be performing would be
25 a 90 degree angle?

1 A. No. As I mentioned previously, the hole is reamed
2 out in a gradual change and the pipe is fed through that
3 hole. The pipe is not sitting at a 90 degree bend
4 similar to a V, or whatever specific imagine, with two
5 lines intersecting at the bottom. That's not how the
6 pipe is installed.

7 Q. And I have not asked you that.

8 I'm asking you does it accomplish the overall change
9 in degree coming off of the line going into the tunnel
10 and coming out of the tunnel -- does it accomplish a
11 90 degree change?

12 A. I don't have the specific information to calculate
13 that. But based --

14 Q. Thank you.

15 A. -- on your representation --

16 Q. Thank you.

17 Are you aware if any Indian Tribes possess water
18 rights to this river?

19 A. I don't know.

20 Q. Has that issue ever been discussed with you in
21 the -- in the performance of your work?

22 A. No.

23 Q. Thank you.

24 You testified earlier to a limitation of about
25 1.6 miles with regard to the sensitivity areas that

1 you'll be looking at, if I recall, that you had limited
2 it down to 1.6 miles?

3 A. My testimony was regarding high landslide areas and
4 the review of engineering data and desktop information to
5 narrow down specific isolated locations with a total of
6 approximately 1.6 miles along the route.

7 Q. Right. Now is this along the new routes, or was
8 this along previously approved routes?

9 A. This is along the pipeline route currently.

10 Q. The current. So it may include new routes, or it
11 may include previously approved routes?

12 A. It includes the route up until -- with any specific
13 micro changes that have occurred.

14 Q. Okay. And could you please just define "desktop" in
15 the way that you're using it?

16 A. Yes. The analysis was conducted with aerial
17 photography, LIDAR data, which is 3D data that's
18 collected, aerial video, as well as other specific
19 geology and geo data sets used by the geotechnical
20 engineers to conduct that particular assessment.

21 Q. And you've made a number of references to both
22 aerial photography and aerial reconnaissance that have
23 been done over some of the reservation lands; is that
24 correct?

25 A. I'm not aware of specific reservation lands.

1 Q. Did you not testify that there were certain lands
2 that you've been invited not to trespass upon and that
3 you've observed those -- that request?

4 A. Yes.

5 Q. And that for some of those lands instead you were
6 participating in aerial reconnaissance of those lands?

7 A. No. Any reconnaissance was done particularly on the
8 right of way similar to what we do for civil or
9 environmental surveys.

10 Q. So you personally did not fly in any of those
11 reconnaissance missions?

12 A. The extent of my involvement was overflights over
13 the route for routing.

14 Q. So you may have indeed flown over tribal lands?

15 A. I'm not sure.

16 MR. WHITE: Objection.

17 Q. Are you aware of tribal control over air space?

18 A. No, I'm not.

19 MR. GOUGH: Thank you. No further questions.

20 MR. SMITH: Thank you. Where are we at here?

21 Commissioner Nelson has another question
22 regarding the diagram.

23 CHAIRMAN NELSON: I'm sorry, Tina. You didn't
24 know what I was thinking.

25 In some regards, I'm more confused now than when

1 we started. I appreciate you going down the line of
2 questioning and try to get at where I was going
3 yesterday, but I'm not sure we completely got there.

4 We'll get this back up on the screen, and I've
5 got a couple more questions. I'd like to zoom it in on
6 the intersection of the blue and red section on the left
7 side.

8 That will work. I will readily admit that as
9 part of my work I don't review these kind of diagrams
10 regularly. But at the intersection of the blue and the
11 red line it appears to me that there are two black lines,
12 an indication that that is a 10 degree radius between
13 those two black lines.

14 Is that what the 10 degree marking is
15 indicating?

16 THE WITNESS: Yeah. It's the indication of the
17 angle of approach that the pipe would be lifted to be fed
18 into -- into the opening or the entry of the hole.

19 CHAIRMAN NELSON: So does that look like a
20 10-degree angle to you, depicted with those black lines?

21 THE WITNESS: Not specifically. But the intent
22 is that that pipe would be lifted at a 10 degree angle
23 and be fed into the entryway.

24 CHAIRMAN NELSON: I want to ask just a couple of
25 questions. Just so I'm clear, the blue line is the

1 intended route of the pipeline; correct?

2 THE WITNESS: Correct.

3 CHAIRMAN NELSON: Okay. According to this
4 drawing, it appears that that is, at its closest, about
5 55 feet below the White River. Ms. Tillquist in her
6 rebuttal testified that that was to be 70 feet below.

7 Can you tell us which is correct? Is it the
8 drawing, or is it Ms. Tillquist's rebuttal testimony?

9 THE WITNESS: This is an older drawing. So I
10 would have to verify, Commissioner, on the current set of
11 drawings the depth of installation for the White River.

12 CHAIRMAN NELSON: My last question -- and I
13 think Mr. Gough was trying to get there and maybe he did
14 and maybe this is a redundant question.

15 So I'm understanding, you've got one long welded
16 piece of pipe and you stick it in one end with a
17 10 degree elevation and you can pull it through these two
18 45 degree bends and come out the other side.

19 Is that how it works.

20 THE WITNESS: Essentially. But I think the --
21 the scale here is exaggerated, and it's not actually
22 45 degree. It's much smoother than that. The path of
23 the drill is gradual, and so I think that this shape is a
24 bit exaggerated on this drawing with this scale.

25 CHAIRMAN NELSON: Scale doesn't matter to angle.

1 So I'm not -- I'm not understanding that response. An
2 angle is going to be the same regardless of the scale.
3 And so I guess my question is, the angles we are seeing
4 here, are they accurate or not accurate?

5 THE WITNESS: They're generally accurate, yes.
6 The horizontal directional drill methods have been around
7 for a number of years. We've successfully installed
8 overly 35 drills on the Gulf Coast project. We had nine
9 drills on the Cushing project and over 30 drills on the
10 Keystone base project.

11 It's highly specialized engineering that's
12 completed by specialty contractors. We provide these
13 drawings to our construction contractor who have their
14 own set of special engineers who review these drawings
15 and then make detailed plans of those drawings.

16 The hole that's created is done through very
17 accurate GPS tracking. There's printouts and monitoring
18 that's done to create the particular pathway for a safe
19 installation of the pipe under the river.

20 So there's very sophisticated software that's
21 used to drill the pathways and monitor specifically those
22 particular pathways. And once the pipeline is actually
23 installed, there is actually an electronic printout of
24 this particular image, and then it's overlaid -- the
25 original image, which is what you see here, and then the

1 actual pathway, which is actually drilled. This is the
2 ideal condition that we would want to see.

3 However, it doesn't always look exactly like
4 this when it's finished. It usually levels off and
5 becomes, you know, less severe as far as the angle that's
6 looked at here.

7 MR. HARTER: Excuse me.

8 CHAIRMAN NELSON: I have one more question. You
9 mentioned that there's an updated drawing of this. So
10 I'm assuming there may be updated drawings of all the HDD
11 crossings. Is that correct?

12 THE WITNESS: That's correct.

13 As per the Amended Order Conditions, we are
14 required to provide the Commission with all of those
15 drawings prior to going to construction.

16 CHAIRMAN NELSON: Thank you. And I appreciate
17 your indulgence of my curiosity.

18 MS. ZANTER: Tina, would you please scroll out
19 so we can see the scale of that drawing?

20 MR. ELLISON: I guess I don't understand the
21 process here where a Staff member gets to ask that we be
22 shown something that has not been requested by counsel
23 during questioning or by the Commission.

24 MS. ZANTER: That's fine.

25 MR. ELLISON: I'm just wondering. This is my

1 first PUC proceeding.

2 MR. SMITH: Yeah. No.

3 MR. ELLISON: I don't know what the rules are.

4 MR. SMITH: Commissioner Hanson, go ahead.

5 COMMISSIONER HANSON: Ms. Zanter, would you care
6 to explain what your role is with the Public Utilities
7 Commission.

8 MS. ZANTER: Certainly. My role with the Public
9 Utilities Commission is I'm the Pipeline Safety Program
10 Manager. And as part of this proceeding I don't have a
11 direct role. I'm here, I guess, for technical knowledge.

12 And for my technical knowledge I wanted to
13 observe what the scale was because it's important to me
14 in my advice to Staff as to whether it was accurate or
15 not.

16 MR. ELLISON: And, ma'am, I'm not suggesting
17 that it wouldn't be appropriate that you ask these
18 questions. I just think that it would have been
19 appropriate to have your attorneys put you on as a
20 witness so that you could have these questions.

21 I'm not saying they're not appropriate
22 questions. But we've had a lot of variations of process
23 here, and I'm just trying to understand your part of it.

24 COMMISSIONER HANSON: I asked her the question
25 too, and I have one further question, if I could, that

1 was prompted here.

2 Did I hear you correctly state that this
3 technique that you're using with XL Pipeline is the same
4 technique that was used with the Keystone Pipeline and
5 its crossings?

6 THE WITNESS: Correct.

7 COMMISSIONER HANSON: Okay. I did go out and
8 observe some of those so I was just curious.

9 Thank you.

10 MR. HARTER: This is John Harter.

11 MR. SMITH: Yes, sir.

12 MR. HARTER: On the extensive answer that
13 Ms. Kothari gave on Commissioner Nelson's question I
14 think I missed the question somewhere in there.

15 So I would really appreciate if Cheri could go
16 back and read the question that she gave that extensive
17 answer to because I didn't hear it.

18 (Reporter reads back the question.)

19 MR. HARTER: I guess in my mind that was
20 basically a yes or no question so I just got lost in the
21 answer and where the question was.

22 So thank you.

23 MR. RAPPOLD: Mr. Smith, Matt Rappold. Straight
24 ahead. Sorry.

25 Are we permitted any follow-up questions to

1 answers that were elicited in response to Commissioner
2 questions just now?

3 MR. SMITH: We need to move along, but usually
4 we do allow that. Yeah. We usually do.

5 MR. WHITE: Mr. Rappold has already had his
6 opportunity to follow up on Commissioner questions.

7 MR. RAPPOLD: They asked new questions,
8 Mr. Smith.

9 MR. SMITH: Can we keep it quick quick?

10 MR. RAPPOLD: It will be real quick.

11 MR. WHITE: I would just like to note this is
12 effectively the third round of cross-examination of this
13 witness now.

14 MR. SMITH: Well, it is. But we've had
15 additional questions.

16 MR. WHITE: Will there be any follow up to
17 questions Mr. Rappold asks?

18 MR. ELLISON: Mr. White is an experienced
19 litigator. He knows that sometimes during direct,
20 redirect, recross, whatever, it goes three, four, five
21 times sometimes if it's all still relevant.

22 And we continually have these objections, which
23 I know we're concerned about time. It's -- we're wasting
24 a lot by these objections.

25 MR. SMITH: Okay. Well, just keep it short, if

1 you would, Matt.

2 MR. RAPPOLD: Yes, sir. I appreciate it.

3 RECROSS-EXAMINATION

4 BY MR. RAPPOLD:

5 Q. Ms. Kothari, am I understanding this correctly
6 that -- well, let me go back.

7 Do engineers normally build things off of generally
8 accurate scales and drawings?

9 A. This drawing is accurate.

10 Q. No. That wasn't my question. You actually said
11 that this drawing was generally accurate in your response
12 to Commissioner Nelson's question, and then you said that
13 updated drawings would be provided to the Commission
14 prior to construction.

15 And I'm just wondering, are projects generally built
16 off of generally accurate scales and drawings?

17 A. It depends what the particular item is.

18 Q. This item. This is the only item we're talking
19 about.

20 A. This item -- this is the specific drawing for this
21 item. As I mentioned previously, this drawing is
22 provided to our construction contractor. The engineer's
23 contractor develops very specific detailed plans for the
24 execution of the installation.

25 This is the general plan that they follow, and then

1 they develop additional detailed drawings in order to
2 execute the work.

3 Q. So that's a yes; right?

4 MR. WHITE: Objection. This answer has been
5 given now twice. Cheri indicated that the first answer
6 was a page long. It's not a yes or no question.

7 MR. SMITH: Sustained.

8 MR. RAPPOLD: Thank you, Mr. Smith.

9 MR. SMITH: Yes, sir. Now we're to -- are you
10 done, Mr. Gough? You were done; right?

11 MR. GOUGH: I wasn't quite finished. Because
12 what I did want to obtain was the name of the engineer
13 who did sign off on this diagram.

14 A. I don't have that in front of me. This is a not
15 authenticated drawing. So it's an earlier version of the
16 drawing, as I mentioned previously. The drawings have
17 been updated, and I don't have that information in front
18 of me.

19 Q. Does that authenticated drawing appear any place in
20 the record?

21 A. No, it does not.

22 Q. So all of this testimony has been by a nonlicensed
23 engineer over a nonauthenticated, unsigned engineering
24 document?

25 MR. WHITE: Renew the objection to the same

1 question which was sustained earlier.

2 MR. SMITH: Sustained.

3 MR. GOUGH: I have a lot more questions, but I'm
4 not going to ask them now.

5 Thank you.

6 MS. EDWARDS: This is Kristen Edwards for Staff.
7 Having consulted with our engineers, could I request
8 leave to ask three questions pertaining to this? I think
9 it will clear this up for a lot of people.

10 MR. SMITH: Thank you. You want to go out of
11 order?

12 MS. EDWARDS: Yes.

13 MR. SMITH: We'll allow that.

14 RECROSS-EXAMINATION

15 BY MS. EDWARDS:

16 Q. Ms. Kothari, can you read the scale in the lower
17 left-hand corner of the graph?

18 MR. ELLISON: That question has been asked and
19 answered.

20 MS. EDWARDS: I'm not sure it was answered.

21 MR. ELLISON: The scale was what, 1 to 36 -- I
22 can't remember. She's had so many different answers.

23 MR. RAPPOLD: I think she said 1 to 200.

24 MS. EDWARDS: The left-hand side.

25 MR. ELLISON: Was my objection overruled?

1 MR. SMITH: Yes, it is. Yes.

2 MR. ELLISON: Okay. Just understanding the
3 rules.

4 Q. Ms. Kothari, is that legible to you?

5 A. It is.

6 Q. So does it matter that the -- to the angle if the
7 vertical and horizontal scales are not the same?

8 A. It does.

9 Q. How so?

10 A. This essentially shows that it's a gradual angle,
11 and so it's exaggerated on one scale versus the other.

12 MS. EDWARDS: Thank you. No further questions.

13 MR. SMITH: Okay.

14 MR. ELLISON: I have a follow-up question.

15 MR. SMITH: Sure.

16 RECROSS-EXAMINATION

17 BY MR. ELLISON:

18 Q. Ma'am, so am I understanding your testimony that
19 although another updated drawing has been prepared, it
20 has not been provided to the Commission; is that right?

21 A. The updated drawings will be provided to the
22 Commission per the Amended Order.

23 Q. So basically this, amongst so many other things that
24 have not yet been provided to the Commission, you are
25 asking the Commission, are you not, to recertify a

1 construction permit based upon a lot of information that
2 has not been provided to the Commission, ostensibly which
3 would show whether or not TransCanada is willing, able,
4 and capable of complying with all of the Amended
5 Conditions?

6 MR. WHITE: Objection. Argumentative. It calls
7 for a legal conclusion.

8 MR. ELLISON: I'll rephrase it.

9 MR. SMITH: Okay. Let's move along here.

10 MR. ELLISON: All right.

11 Q. This is one of many diagrams, exhibits about the
12 details of the construction of this pipeline which have
13 not yet been provided to this Commission; is that right?

14 A. The Conditions are prospective. This is one of
15 them.

16 Q. So your answer is yes?

17 A. Yes.

18 Q. So you're asking the Commission to make a decision,
19 are you not, based upon less than complete information?

20 You basically want a construction Permit
21 reauthorized upon simply the promise of TransCanada
22 rather than the showing by TransCanada that it is capable
23 of meeting these Conditions; is that right?

24 MR. WHITE: Objection. Argumentative. He wants
25 her to agree with his legal argument as usual.

1 MR. SMITH: I'm going to sustain that. We're
2 capable of drawing our own conclusions about this. And
3 we do. We pay attention to the Conditions, and we expect
4 them to be complied with.

5 MR. ELLISON: But my understanding under
6 SDCL 19-19-704 as to the opinion on an ultimate issue,
7 the testimony in the form of an opinion or inference
8 otherwise admissible is not objectionable because it
9 embraces an ultimate issue to be decided by the trier of
10 fact.

11 MR. SMITH: We heard her -- she said they
12 haven't provided the drawings. We can draw our own
13 conclusion about that.

14 Ms. --

15 MR. CAPOSSELA: May I be recognized briefly. I
16 think it's going to be a lot easier if in the making of
17 objections and if all counsel tamp down the sniping.

18 Thank you.

19 MR. SMITH: I agree. I agree. Ms. Braun, do
20 you have questions of Ms. Kothari?

21 MS. BRAUN: Not at this time. Thank you.

22 MR. SMITH: All right. And if somebody's
23 present --

24 MS. SMITH: Carolyn Smith. Am I allowed to ask
25 questions?

1 MR. SMITH: You are. We go in alphabetic order.
2 I've got you checked now. I missed you yesterday. But
3 we'll be coming up to you.

4 MS. SMITH: Thank you, sir.

5 MR. SMITH: Mr. Harter.

6 CHAIRMAN NELSON: Go ahead.

7 RE CROSS-EXAMINATION

8 BY MR. HARTER:

9 Q. Good morning.

10 A. Good morning.

11 Q. Mr. Hanson had some questions for you on the City of
12 Colome's water line, okay, from yesterday. And it was
13 stated that the City of Colome's line was going to be
14 dropped below KXL; correct?

15 A. This is my understanding of the details within that
16 particular design, that there is a potential to lower
17 that line.

18 As I mentioned yesterday, we'll still have some
19 additional information that needs to be verified on the
20 current depth of cover of that pipeline.

21 Q. Where did you get that current depth of cover
22 information from?

23 A. We don't have that at this point. That is an
24 outstanding item that needs to be verified before we can
25 finalize plans for a potential of lowering that pipeline.

1 Q. Was that information gave because I told you it was
2 exposed?

3 A. No. It was always an outstanding item that needs to
4 be completed before we can finalize the crossing design
5 for that particular location.

6 Q. Okay. I guess I've had extensive talks with the
7 people in the City of Colome's office. And beings this
8 is, what, going on eight years, it just astounds me that
9 there has been no contact with the City of Colome in
10 eight years and 2012 they said they were going to have it
11 in the ground in two years.

12 I just don't understand your guys' procedure. Can
13 you elaborate on why there's been no contact with the
14 City of Colome?

15 A. There has, in fact, been contact with the City of
16 Colome. Our land agents met with the mayor and the City
17 engineer regarding the crossing of that water line. I
18 don't have all the details of the contact report, but I
19 believe you were actually present at one of those
20 meetings.

21 Q. Okay. If a spill occurs anywhere -- let's just say
22 it's in that highly permeable sands. When the spills
23 breach the pipeline what direction does it flow?

24 A. I don't have the details to be able to comment on
25 that. That's Ms. Tillquist's area.

1 Q. An engineer cannot comment on -- if a pipe breaches,
2 does it go up? Does it go down? Does it go out?

3 MR. WHITE: Objection. Asked and answered.

4 MR. HARTER: She did not answer the question.

5 MR. SMITH: Overruled.

6 Q. Very simple. You crack an egg by a pipe does it go
7 up?

8 A. My understanding is that it would flow into the
9 trench. From there I'm not a fate and transport expert.
10 I don't know the flow paths and movements of the oil
11 through the various soils so I cannot comment any
12 further.

13 Q. So it would be fair to say it's going to flow in all
14 directions. Would you say that? Except for maybe up,
15 but it could?

16 A. It would flow into the trench.

17 Q. Okay. Fair enough.

18 So yesterday you stated that you did not believe
19 that being 175 feet from what you are calling the cone of
20 depression or the wellhead protection area -- you're
21 calling it their wellhead protection area.

22 So what you're stating is that you do not believe
23 that any byproducts could separate from the materials and
24 flow down into the water supply; is that right?

25 A. I cannot comment on ground movement of crude oil.

1 Q. Interesting. Okay. As to -- just a little bit back
2 into the PHMSA side of the SCADA system side of this and
3 PHMSA.

4 Are you familiar with concerns of the computerized
5 leak detection systems?

6 A. I'm not familiar with specific concerns of that.

7 Q. Okay. Being in your position, would you get a
8 report from PHMSA if they put it out stating concerns
9 about the SCADA systems?

10 A. Our specific SCADA engineers would receive any
11 specific advisories that were put forth by PHMSA.

12 Q. So you would have no -- would you have knowledge
13 of -- being an engineer in design, if someone from PHMSA
14 made the statement -- the question for me is why have
15 regulators continued to allow pipeline industry to sell
16 the public on leak detection systems that don't work as
17 advertised?

18 Do you have any knowledge of that statement?

19 A. I do not.

20 Q. Do you have any knowledge of a draft report that
21 come from PHMSA about this particular issue of the leak
22 detection systems?

23 MR. WHITE: Objection. Asked and answered. She
24 said she doesn't get information from PHMSA. She's not
25 the SCADA engineer.

1 MR. SMITH: Sustained.

2 MR. HARTER: So just, Mr. Smith, for -- I
3 brought this up yesterday. And it just astounds me that
4 a lead engineer in a system -- they have multiple
5 meetings about this stuff and they cannot answer a
6 question directly on these issues that are --

7 I mean, they're selling this pipeline that we're
8 supposed to believe that they're going to be able to find
9 these leaks just like that.

10 MR. WHITE: Move to strike Mr. Harter's
11 testimony.

12 MR. SMITH: Yeah. Your argument may be well
13 taken, but you can make it, you know, at the point when
14 you get to your testimony and closing argument.

15 MR. HARTER: Okay. Thank you. I'll move on.

16 MR. SMITH: What she said is that's not her
17 area. Obviously, this is a very complicated
18 organization, and people have specialized functions. She
19 answered, and that's that.

20 MR. HARTER: Okay. I'll move on.

21 Q. Are you familiar with relationship to different
22 projects going in Canada with what you do -- from being
23 from Canada and what you're doing here in the U.S.?

24 A. I am not familiar.

25 Q. As a role in your job do you have an interest in

1 what other pipeline companies are doing for projects?

2 A. Not specifically related to the work that we do for
3 this project.

4 Q. If another pipeline -- Keystone XL -- there's been
5 numerous testimony about the Conditions that have been
6 put on KXL; correct?

7 A. I'm sorry. Could you repeat the question?

8 Q. There's been numerous testimony about all the
9 Conditions that you've adhered to on Keystone XL;
10 correct?

11 A. Correct.

12 Q. Are you familiar with the 209 Conditions that were
13 placed on Enbridge's Northern Gateway Project?

14 A. I'm not specifically familiar.

15 Q. Okay. Thank you. Would you in your personal
16 opinion consider 175 feet -- that's feet -- away from
17 your drinking water source for your -- where you live at
18 a safe distance?

19 A. As I stated previously in my testimony, the pipeline
20 is routed 175 feet from the source water protection area
21 buffer. That buffer has a transport time of 20 years.

22 Q. Yes or no?

23 A. Yes.

24 Q. Yes or no? Was Colome water wells decided to not be
25 a high concern because it feeds a low population area?

1 A. No.

2 Q. So if that is no, can you answer why I had to fight
3 so hard to get the small amount of protections that I did
4 for going across my property?

5 MR. WHITE: Objection. Argumentative.

6 MR. SMITH: Sustained.

7 MR. HARTER: Thank you.

8 Q. This question is coming basically from what I seen
9 go on in the hearings.

10 Are all the different job titles given within the
11 company so the company can defer responsibility when they
12 come to these hearings?

13 A. No.

14 Q. Is FBE, the coating that you talked about for
15 coating in the pipe yards, is that sprayed on?

16 A. The fusion bond epoxy is applied in a plant
17 environment.

18 Q. No. I'm talking about after it's been exposed to
19 the sun and you're putting it out in the pipe yard.

20 A. The UV protection coating is sprayed on.

21 Q. When you're in a trench doing line installation,
22 brushed on, sprayed on, or how?

23 A. The pipe is coated above ground, and it could take
24 various forms. It could be brushed on, or it could be
25 applied with an automatic piece of equipment.

1 Q. In your professional opinion does brushed on get as
2 smooth of an application as sprayed on?

3 A. Both techniques are acceptable. Both techniques
4 have to meet the required specification for thickness and
5 for other specific properties. So they're both
6 acceptable. One just looks a bit nicer than the other
7 because of the mechanized standpoint.

8 Q. Thank you. Are cracks in the bonding before you
9 have to go in and put this on to protect it, are they
10 visible to the naked eye?

11 A. I don't understand your question.

12 Q. The original pipe coating coming out of the factory
13 when they put the coating on -- so it's been sitting out
14 in the weather for two years -- would the cracks to that
15 be visible to the naked eye?

16 A. There are no cracks in the coating.

17 Q. If there are no cracks in the coating, then why do
18 you got to recoat it?

19 I mean -- okay. Let's say you talk about the mill
20 thickness. Okay. So if that's thinner in an area than
21 it is over here, there's going to be a transition line,
22 isn't there?

23 A. Not specifically. As I mentioned before, there are
24 tests that we conduct to verify the integrity of the
25 coating. If the results of the testing show that the

1 coating is not suitable for installation, those pipes
2 will be recoated.

3 Q. Okay. Is that like an x-ray type of ordeal that
4 they're doing on them? They put a little magnifier on it
5 or whatever to look at the coating on that?

6 I'm just interested in how you're coming to the
7 conclusion of that.

8 A. The pipe is tested with specialty equipment similar
9 to what we talked about previously where electric current
10 is induced on the pipe and any disbondments from that
11 360 verification of the pipe would signal a specific area
12 that would have a disbondment, and then that disbondment
13 is repaired.

14 Additionally, as I mentioned previously, the pipe is
15 checked for its coating thickness using a specific gauge
16 that measures the coating in various different spots
17 along the surface of the pipe.

18 Q. I guess where I'm coming from -- and that was a good
19 answer. Thank you.

20 Looking at clear coat systems on paint -- and
21 probably just about all of us have owned a car at some
22 time that the paint starts peeling off of. So when
23 you're talking about these bonding deals, that's
24 basically the same thing, and that's where I was coming
25 at this angle from, to kind of -- to see if, you know --

1 not visible to the eye, that whether it was -- there
2 could be small artillery [phonetic] cracks that could
3 cause problems. So thank you.

4 Does the weight of the pipe stacked on each other
5 have an effect on the coatings?

6 A. No, it does not.

7 Q. Earlier, just earlier today, you talked about field
8 bends. Would you explain to everybody what a field bend
9 is?

10 A. Yes. The pipe is put through a bending machine.
11 There's a mandrel in that machine that ensures the pipe
12 does not deform when applying the bend. And then a
13 series of gradual bends are formed in the pipe to achieve
14 the desired angle.

15 The horizontal bends are essentially used to turn
16 the pipeline gradually to avoid specific features along
17 the route.

18 Q. Okay. When you're making these bends -- and on the
19 diagram that you had extensive conversation on, it was
20 mentioned a 45 degree bend; correct?

21 A. Correct.

22 Q. When you're installing -- so you're talking about
23 bending the pipe itself; right?

24 A. Correct.

25 Q. So when you're making these 45 degree bends in

1 hardened steel pipe at the bend point how is that not
2 cracking?

3 A. As I mentioned before, a mandrel is inserted inside
4 the pipe to ensure that the bend isn't severe.

5 Once the bend is completed that bend is inspected
6 for any sort of indications along the surface of that
7 pipe to ensure there's nothing injurious, like you
8 mentioned, whether it's cracking or anything to that
9 effect.

10 So that's how we ensure there's no specific
11 deformities to that. There's an inspection that's done
12 as the bend is progressing through the machine as well as
13 after.

14 MR. RAPPOLD: Excuse me, Mr. Smith. I want to
15 object to the answer as being nonresponsive. The
16 question was how does it not bend when you put it through
17 there, and the answer provided did not address how it
18 does not crack when it bends, but the answer addressed
19 how do they evaluate it to see if it didn't crack when it
20 bent.

21 MR. SMITH: Well, I'm going to overrule. It
22 wasn't your question.

23 MR. RAPPOLD: Throughout these hearings other
24 parties have been allowed to object to other parties'
25 questions and answers.

1 MR. SMITH: Well, I think she was attempting to
2 give an answer to a question that in a sense couldn't be
3 answered as it was asked. But at least I wouldn't be
4 able to answer it.

5 MR. HARTER: She partially answered the
6 question.

7 MR. SMITH: Thank you. Overruled.

8 MR. HARTER: Partially.

9 Q. So you said there is a sleeve put inside the pipe to
10 keep it from collapsing. Would that be right?

11 A. Yes. There's a mandrel that's inserted inside the
12 pipe and the pipe is put through the bending machine and
13 gradually the bend is formed for that particular pipe.

14 Q. See I didn't know that part of it, which interests
15 me. How do you get the mandrel out of the inside of the
16 pipe? I'm just --

17 You know, you're sticking that in the pipe, and
18 you're making the bend 45 degree. How do you get that to
19 come back out? Is it --

20 A. It's on a cable so it's inserted, and then the bend
21 is gradually made. It's not severe bending that's
22 occurring. It's 1 pipe degree per 3 feet along the
23 length of that piece of pipe. So it's not severe bending
24 that you cannot remove the mandrel.

25 Q. Does that mandrel move back from each side on the

1 center point when you're making that bend?

2 A. I don't know the specific details.

3 Q. That's okay. We'll move on. Would it be fair to
4 say that when you're making these bends in these pipes
5 that you're actually stretching the steel?

6 A. No.

7 Q. Interesting.

8 Does the steel pipe that you're bending, does it
9 contain aluminum to make it easier to bend?

10 A. I don't know the chemical composition specifically
11 of the makeup chemistry of the pipe.

12 Q. Thank you.

13 And you're not a design engineer; correct?

14 A. I'm not the design engineer.

15 Q. Okay. Has TransCanada ever failed to pull a large
16 diameter line through an HDD length?

17 A. Can you repeat the question?

18 Q. Has TransCanada ever failed to pull a large diameter
19 pipe through an HDD length?

20 A. Yes. We've had one such occurrence that I can think
21 of on a project specifically that I worked on. That pipe
22 was removed from the hole and a new pipe was welded up
23 and a second attempt was made.

24 Q. And just what happens when that fails to go in? I
25 mean, what was going on that that failed?

1 A. It got stuck halfway through the hole during the
2 pull. There was -- there appeared to have been some sort
3 of collapse within that particular drilling operation
4 within the hole.

5 Q. Okay. You made a statement earlier that you said
6 the pipe -- the pipe is flexible. So I guess my
7 curiosity is is that a solid steel pipe which is flexible
8 with no aluminum, I don't understand how it's flexible.

9 Can you expand upon that?

10 A. I cannot. As I mentioned previously, I don't have
11 the details on the chemistry. What I can tell you is the
12 pipe is engineered through specific mechanical and
13 chemical properties to allow for it to have the
14 flexibility to bend and move and be subject to the
15 particular forces that are required to do installation in
16 the conventional method as well as trenchless methods.

17 Q. Okay. Just one more question on that.

18 So if I was to pick that up with a crane on each --
19 a cable on each end, would it sag in the middle?

20 A. Yes.

21 Q. When crossing a waterway and you get the pipe down
22 in below is out of sight, out of mind in an HDD the
23 theory that you guys use?

24 A. No. We are required to inspect during operations
25 all pipe, regardless of the depth or method of

1 installation.

2 Q. So South Dakota citizens can be guaranteed that it's
3 going to have a full coat of coating when it's underneath
4 that river?

5 A. Yes. As I mentioned previously, we apply an
6 overcoat to protect that coating as it's pulled into the
7 hole. And I described in detail yesterday on the
8 verification methods post-installation of that coating.

9 Q. Thank you.

10 MR. HARTER: And thank you for your testimony.
11 And just from a personal standpoint, as you being up here
12 having to be the one up here and witness, I think this is
13 probably the most disrespectful use of a woman that I've
14 ever seen.

15 Thank you.

16 MR. SMITH: It's 10 after. 15-minute break.
17 We'll reconvene at 25 after.

18 (A short recess is taken)

19 MR. SMITH: Okay. Continuing on with Individual
20 Intervenors.

21 Ms. Kilmurry, are you here today? I don't see
22 you.

23 CHAIRMAN NELSON: No.

24 MR. SMITH: Ms. Lone Eagle. I just saw her.

25 MS. CRAVEN: Excuse me. I have a question.

1 MR. SMITH: Yes.

2 MS. CRAVEN: Point of clarification. We saw
3 that you all were interacting with the court reporter
4 after Mr. Harter finished his testimony.

5 And was his last statement asked to be stricken
6 from the record?

7 MR. SMITH: I don't remember. I don't remember.

8 MS. CRAVEN: Was his last statement about
9 Ms. Kothari, was it stricken from the record?

10 MR. SMITH: I don't recall it.

11 MR. MARTINEZ: I don't believe that that would
12 have been because that would have had to have been asked
13 in open proceedings.

14 MR. SMITH: It's still in the transcript; right,
15 Cheri?

16 (Discussion off the record)

17 MR. SMITH: So we'll move down.

18 And, Ms. Lone Eagle, please proceed with your
19 questions of Ms. Kothari.

20 RE-CROSS-EXAMINATION

21 BY MS. LONE EAGLE:

22 Q. I missed some of your answers, and I apologize for
23 that so I'm just going to ask for a little more
24 information.

25 You were asked earlier today about the -- again,

1 about the Bridger Creek Crossing visit that you made in
2 2012; is that correct?

3 A. Yes.

4 Q. Okay. And were you asked which side of the river
5 you visited?

6 A. I believe so.

7 Q. Okay. Which side of the river was that?

8 A. I think -- so my visit took place from north to
9 south as we were reviewing the route from the Cheyenne
10 through the various other features along that area. So
11 it would have been from the north end.

12 Q. Okay. Was that a flyover, or were you on the
13 ground?

14 A. Portions were flyover. Portions were on the
15 ground.

16 Q. Okay. Which bank of the river did you stand on?
17 I'm sorry.

18 A. Specifically for Bridger that was aerial.

19 Q. That was aerially. So you were not on the ground
20 during that visit?

21 A. No.

22 Q. Okay. Thank you.

23 And then some of my other questions were -- oh. So
24 one of the questions that came to my mind when I was
25 trying to figure some of this out with your answers

1 earlier is do you consider that aerial flight to also be
2 a physical visit to the river?

3 A. For the purpose of what I was trying to understand
4 and accomplish, that was a physical visit for me.

5 Q. Okay. So in that instance flying over was actually
6 physically being there was the same thing. I'm just
7 asking for point of clarification before I get an
8 objection.

9 A. It wasn't just one passover. Our routing team was
10 looking for specific crossing locations and specific
11 approaches and design of the routing through that area.

12 Remainder of the routing team have done physical
13 visits for specific data collection for environmental as
14 well as civil as well as the geotechnical bore hole
15 sample to facilitate the design.

16 Q. Okay. And because you were not a part of those
17 particular visits, you would not have personal knowledge
18 of the route they took to get to that area, would you?

19 A. I do not.

20 Q. Okay. Thank you.

21 My other questions stem from Commissioner Hanson's
22 questions regarding the water line for the City of
23 Colome. You had mentioned that there was a possibility
24 that that water line would be lowered; is that correct?

25 A. Yes. That's currently some of the potential plans

1 for that pipeline as part of the general design for that
2 crossing -- as I mentioned previously, at this time we
3 are missing a bit of information to complete the
4 particular design.

5 Q. Okay. In your background with the general
6 engineering do you have an understanding of water
7 pressure?

8 A. To a certain extent.

9 Q. Okay. I guess what I'm trying to understand is in
10 the event that that pipeline gets lowered it will be at a
11 lower depth than it already is.

12 How will that affect the water pressure? It will
13 have a higher -- a further amount of distance to go to
14 get back up to the surface. So how would that affect the
15 water pressure for the City of Colome in the event that
16 pipe has to be lowered?

17 A. TransCanada has to work with the City engineer to
18 determine the specific crossing designs. As I mentioned
19 previously, TransCanada has met with the City of Colome
20 to discuss that particular crossing. Further details
21 would need to be discussed, specifically with the
22 engineer to take that particular concern or issue into
23 question.

24 It would be based on their feedback and
25 recommendations back to us as to what particular depth

1 they would feel appropriate, if needed, to lower that
2 pipeline.

3 Q. Okay. Would I be allowed to be present during those
4 meetings if I requested or any of the other people in
5 this room?

6 A. I don't know. I don't see that being a specific
7 issue.

8 Q. Okay. And then this is more of a yes or no question
9 regarding your knowledge in general engineering. If the
10 water pipe is lowered is it possible that the City of
11 Colome would lose water pressure? Yes or no? Is it
12 possible?

13 A. I don't think I can answer that as a yes or no.

14 Q. Okay. Thank you.

15 MS. LONE EAGLE: I'm done.

16 MR. SMITH: Is that all of your questions?

17 MS. LONE EAGLE: Yep. That's all I have right
18 now. Thank you.

19 MR. SMITH: I'm not seeing Ms. Myers. Okay.
20 She's not here today.

21 Mr. Seamans.

22 RE CROSS-EXAMINATION

23 BY MS. SEAMANS:

24 Q. I just have a couple of questions. Is cathodic
25 protection used like where a pipeline crosses a water

1 body?

2 A. The entire line is protected cathodically. So any
3 water body crossings would have the benefit of cathodic
4 protection.

5 Q. Cathodic protection works in water bodies?

6 A. The pipeline is connected at periodic intervals to
7 test stations which are also connected to the various
8 cathodic protection systems. So, therefore, the entire
9 system as a whole would work to cathodically protect the
10 pipeline.

11 MR. SEAMANS: I guess that's all -- okay. Maybe
12 I got one more question.

13 Q. You seem to be a very intelligent woman, and you
14 have attempted to answer all the questions posed to you.
15 But there seems to be quite a few of these questions that
16 you cannot answer or you have no expertise in that field.

17 Would there have been somebody else in your
18 organization that TransCanada could have sent to answer
19 these questions?

20 MR. WHITE: Objection. That decision is not
21 within this witness's scope.

22 MR. SMITH: Sustained.

23 MR. SEAMANS: Okay. I have no more questions.
24 Thank you.

25 MR. SMITH: Thank you.

1 MR. CAPOSSELA: Mr. Smith, may I be recognized?

2 MR. SMITH: Yes.

3 MR. CAPOSSELA: I think that Mr. Seamans should
4 be conferred the opportunity to rephrase his question.
5 It's not an illegitimate question because there has been
6 a lot of testimony from this witness of not having
7 personal knowledge or having to kind of refer to another
8 team within TransCanada.

9 If he rephrased the question, I think it's a
10 fair question.

11 MR. SMITH: Well, I think the objection isn't
12 that. I think it's is she in charge of the legal case
13 here? Who's here to be witnesses?

14 MR. CAPOSSELA: But that wasn't his question.
15 There was so much --

16 MR. WHITE: That was exactly his question.

17 MR. CAPOSSELA: There was so much passing the
18 buck.

19 MR. SMITH: That was his question.

20 MR. CAPOSSELA: He asked if it would have
21 been --

22 I've made the point. Thank you for permitting
23 me to make the point.

24 MR. SMITH: Ms. Smith.

25

RECROSS-EXAMINATION

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BY MS. SMITH:

Q. Good morning. I just have a couple of questions. You spoke about the drill being 175 feet from a home; is that correct? The pipeline possibly could be 175 feet from a home water resource or the water protection district?

A. My testimony was that the current pipeline route is approximately 175 feet away from the City of Colome's source water protection area, which is a buffer that is placed around the wellhead for the City of Colome.

Q. Okay. Thank you.

A. So the actual distance from the pipeline to that wellhead is 1,000 feet.

Q. Okay. So when you say that if there is a spill or break or a compromise or something that happens with that pipeline, it would take 20 years for that to get into the system?

A. My testimony is based on items that Ms. Tillquist discussed yesterday.

Q. I'm sorry. She was here the day before yesterday, and I wasn't here. So I'm sorry.

A. Let me elaborate.

Q. Sure.

A. My testimony is based on discussions from

1 Ms. Tillquist's testimony whereby she stated that the
2 migration transport distance for that length would be a
3 20-year transport distance.

4 She also testified that the pipeline is down
5 gradient from that particular wellhead.

6 Q. Okay. And what was she downgrading it to?

7 A. The pipeline was down gradient.

8 Q. Gradient. Okay. I understand. I'm sorry.

9 A. Yes.

10 Q. So I'm not -- I'm not a -- very well educated, and I
11 just have some questions that I need clear in my mind.

12 So when you say 20 years, it would take 20 years for
13 that to travel. Or she said that. And that would be
14 getting into a water system and possibly into the Colome
15 water system.

16 And so I have a 2 year old granddaughter, and so
17 when she's 22 and she lived in Colome she could possibly
18 expect her water to be not drinkable?

19 MR. WHITE: Objection. Argumentative.

20 Q. Do you feel that that's a possibility?

21 MR. SMITH: Sustained.

22 MR. WHITE: Objection. Argumentative.

23 MR. SMITH: Sustained.

24 MS. SMITH: I'll go on.

25 MR. SMITH: Or you can try to rephrase it if you

1 like.

2 MS. SMITH: Okay.

3 Well, it would be argumentative.

4 Q. Back to the flexibility of the pipe under the river
5 and to help me understand that a little better, from the
6 picture that I saw, that we all saw earlier, it showed a
7 bend in the pipe, but you say that's one long continuous
8 pipe that can achieve that feat?

9 A. Yes.

10 Q. Okay. But it has some curvature to it, ever so
11 slight?

12 A. Yes, it does.

13 Q. Okay. Would there with the psi of the -- I have --
14 for instance, I use a straw. I don't like plastic so I
15 carry this around with me to drink sodas with, and it's
16 got a little bend in it. It's a steel straw, stainless
17 steel, and it's got a little curve in it.

18 So you're saying in theory that this really is
19 straight under there? There's no curve? Or is there a
20 curve such as this (indicating)?

21 I'm pointing to this bend in this straw
22 (indicating).

23 A. There is a slight curve. It is not as sharp and
24 distinct as the one you note there. As I mentioned, the
25 scale of the drawing, the horizontal scale is 1 inch to

1 200 feet, and the vertical is 1 inch to 20 feet.

2 So the drawing appears much more severe than what it
3 is when you look at it on that. So it will be --

4 Q. I see.

5 A. -- much more gradual than --

6 Q. What this is.

7 A. Yes, ma'am.

8 Q. Okay. So even if there's a slight curve and
9 there's -- is it 1,600 psi that the tar sands are going
10 to be traveling through there?

11 A. The operating pressure is 1,307 psi.

12 Q. Okay. Well, I sandblasted some ceiling tiles for my
13 parlor and my sandblaster is 160 psi and I blew some
14 holes in my steel that I put up on my ceilings, had
15 ruined a lot of it. And that was just 160 psi, I think.

16 So anyway, this psi you state is going to be going
17 through this pipe. At that curvature would you say --
18 would there be less stress on the steel if it was
19 straight, or would there be about the same as if there
20 was a slight curve at that juncture of turn?

21 A. There's no noticeable stresses on that. I'd also
22 like to point out with the elevation of the pipe at that
23 particular depth, the pressure's actually quite lower
24 because the oil is actually being pushed in the pipeline
25 from the pumping stations.

1 So based on that elevation change, you're not
2 actually seeing that exacting pressure -- maximum
3 pressure in the pipeline. But there is no noticeable
4 stress on a curvature such as that.

5 Q. No noticeable. Okay.

6 But so there could be some unnoticeable, are you
7 saying?

8 A. There are no stresses --

9 Q. Okay.

10 A. -- on that curvature.

11 Q. All right. So what would the approximate psi be
12 coming right out of that pumping station right there into
13 the river?

14 A. The pump stations are set back at a different
15 distance. I would have to -- I wouldn't be able to tell
16 you specifically, but the discharge pressure at the pump
17 station is 1,307 psi.

18 Q. Okay. So it has to keep that up to propel it
19 through under the river; correct?

20 A. Through to the next pump station.

21 Q. Okay. And the next pump station is how far from the
22 river?

23 A. I don't know.

24 Q. How far apart are the pump stations? Did you say
25 they're 50 miles yesterday?

1 A. Roughly 50 miles.

2 Q. Okay. All right.

3 MS. SMITH: Let me see if I have any other
4 questions. Excuse me for a minute.

5 Q. Oh, I do have a question about the pump station
6 spills that were historically -- you spoke about
7 yesterday that there were 14 spills in that first
8 pipeline, and you said some of them were in pump
9 stations, some of them were not.

10 The ones that were contained in the pump stations,
11 help me visualize what a pump station looks like. Is
12 that like an encapsulated area that if a spill occurs
13 there, it's all in a capsule so it doesn't go anywhere?

14 A. The 14 spills that we've been speaking of, all
15 spills occurred within pump stations, and all spills were
16 contained within the pump stations.

17 Q. Okay. So in the pump station, is that a
18 nonpermeable wall?

19 A. The pump stations do have berms within the station
20 that in the event of a spill, the spill would be
21 contained within the property area.

22 I'd just like to finish my previous sentence that
23 the 14 spills occurred within the pump stations and --

24 Q. Sure.

25 A. -- all were contained but one. There was some that

1 went to the adjacent property in one of those instances.

2 Q. I see. How long did it take for them to discover
3 the one that went into the adjacent property?

4 A. To my understanding, the operations control center
5 and the leak detection system and SCADA systems
6 identified that leak immediately.

7 Q. Immediately like within minutes or hours or --

8 A. Within the allotted protocol times.

9 Q. What is --

10 A. I don't have the detailed time from detection to
11 shutdown.

12 Q. Can you tell me where I might find that information.
13 I'm sorry. Indulge me on that. If you can't tell me,
14 just tell me.

15 A. I believe those reports are filed with the SD DENR.

16 Q. Okay. Thank you. Can you tell me who discovered
17 that incident there, that we're speaking of where it went
18 beyond the pump station?

19 A. I'm not sure I follow your question.

20 Q. Who discovered that? Was it the TransCanada Staff
21 that discovered that?

22 A. The OCC did discover -- was aware and discovered
23 that leak and did the shutdown. I believe there was also
24 a landowner report that had also been called in to the
25 emergency number.

1 Q. Okay. So the OCC and the landowner discovered it at
2 the same time?

3 A. I don't know the specific time references between
4 the landowner contact versus the operations control
5 center. I do know that the OCC did detect that leak and
6 commenced a shutdown of the pipeline.

7 Q. How did they detect that leak?

8 A. Through the leak detection system.

9 Q. Oh. All right. When they called the emergency
10 center then TransCanada responded and shut it down?

11 A. No. What I said was that the leak was discovered,
12 and the pipeline was being shut down. I also understand
13 that a landowner did call in. I don't know the time of
14 reference or the frame of reference between the two.

15 Q. Okay. Thank you.

16 Let's see. Back to the breaches at the pump
17 stations. So I'm just trying to -- I've never seen a
18 pump station physically myself so I'm going to have to
19 have you help me through what this might look like.

20 I imagine it to be a water fed system that keeps
21 engines running smoothly and from overheating. Is that
22 what happens at a pump station?

23 A. No. The pump station are facilities along the
24 pipeline where the oil flows through a series of pumps
25 and is exited from the station continuing on down the

1 line.

2 Q. I see. And so it's motors that move it?

3 A. It's electrically driven motors, yes.

4 Q. Okay. And so when those breaches occurred -- what
5 made the pump station fail?

6 A. I don't have the specific details for the root
7 causes of those incidents. All I'm aware is that there
8 were the 14 leaks that we talked about.

9 Q. Okay.

10 A. There are details in the FEIS on those specifics.

11 Q. As an engineer can you tell me what all the possible
12 causes could be that a pump station would fail?

13 A. I believe I addressed that in earlier testimony.

14 Q. Okay.

15 MS. SMITH: Is that on record? Can people
16 concur that?

17 Commissioner, can you answer that?

18 MR. SMITH: Pardon me?

19 MS. SMITH: Was that into the record? When she
20 says she believes it, I want to be sure that it is in the
21 record.

22 COMMISSIONER HANSON: It is testimony.

23 MR. SMITH: If she said it here, it's in the
24 record.

25 MS. SMITH: Well, she said she believed it was.

1 Okay. I believe that she believes it.

2 Q. So these incidents that happened there, you said
3 they happened within a protected burn area -- berm, is
4 that the correct -- B-U-R-M?

5 MR. SMITH: B-E-R-M.

6 MS. SMITH: Okay. Thank you so much.

7 Q. The berm is made out of what? Dirt or steel or
8 cement or what? Rocks?

9 A. It's a dirt berm with a liner.

10 Q. What's the liner made of?

11 A. I do not know.

12 Q. Okay.

13 MS. SMITH: That's all I can think of right now.
14 Thank you so much.

15 MR. SMITH: Thank you.

16 Staff.

17 MS. EDWARDS: No further questions. Thank you.

18 MR. SMITH: Okay. We've reached the end then of
19 examination of Ms. Kothari. You may step down.

20 Is this the time, Staff, when you intended to
21 call your person who has to be gone?

22 MS. EDWARDS: Please.

23 MR. SMITH: Okay. Is there any objection to
24 them calling them out of order?

25 Please call your witness.

1 MS. EDWARDS: Staff calls David Schramm.
2 (The oath is administered by the court reporter.)

3 DIRECT EXAMINATION

4 BY MS. EDWARDS:

5 Q. Good morning, Mr. Schramm. Could you please state
6 your name and address for the record.

7 A. My name is David Schramm. I'm employed by
8 EN Engineering, 28100 Torch Parkway, Warrenville,
9 Illinois.

10 Q. What is your professional title?

11 A. I am vice president, senior project manager for
12 EN Engineering.

13 Q. And what are your job responsibilities?

14 A. I work within the integrity management group of
15 EN Engineering. I'm primarily focused on corrosion
16 control and cathodic protection and field management --
17 field integrity services. I support them from a
18 technical standpoint from the technical review of
19 drawings, specifications, procedures, design work related
20 to corrosion and cathodic protection.

21 Q. Mr. Schramm, can you briefly explain your
22 educational background?

23 A. I have a resource management degree from Iowa
24 University. I am a NACE Institute cathodic protection
25 specialist and a NACE Institute corrosion technologist.

1 Q. What's the NACE Institute?

2 A. NACE Institute is a body -- it's an association that
3 has a certification program related to corrosion. It's a
4 wholly owned subsidiary of NACE International who provides a
5 number of resources and technical resources related
6 specifically to corrosion control, coatings, generally
7 throughout all industries is what it is.

8 Q. Thank you. Briefly describe your work experience
9 since college.

10 A. Since college I have 35 years of experience
11 primarily in corrosion control. I have worked on a
12 number of pipeline facilities, including Alyeska and
13 Lakehead Pipeline. Most of those in a consulting role.
14 Consulting role.

15 I spent 10 years at Northern Illinois Gas where I
16 ran their corrosion control program in Illinois along
17 with their research facilities and have been with
18 EN Engineering for the last 13 years.

19 Q. And have you ever worked for TransCanada?

20 A. I have never personally worked on any project for
21 TransCanada.

22 Q. Okay. Can you please briefly describe how you
23 became involved in this docket?

24 A. I'm here providing support to the South Dakota PUC.

25 Q. Can you tell us generally what you reviewed or

1 analyzed in order to file prefiled testimony and testify
2 today?

3 A. I read pretty much all the testimony that has been
4 provided and put in the documents. My focus was really
5 on the original Order plus the Amended Order, as well as
6 the PHMSA advisory requirements as well as code under
7 195. And also the tracking sheet that's referenced as
8 well.

9 Q. And drawing your attention to what has previously
10 been marked as Staff Exhibit 3007, is this your prefiled
11 testimony?

12 A. Yes, it is.

13 Q. Do you have any additions, deletions, or edits to
14 make?

15 A. Not at this time.

16 Q. If I asked you the same questions today as those
17 posed to you in your prefiled testimony, would your
18 answers be the same?

19 A. Yes, they would be.

20 MS. EDWARDS: At this time I would move to admit
21 Exhibit 3007.

22 MR. SMITH: Is there objection from anybody?
23 Seeing none --

24 MR. RAPPOLD: Mr. Smith, I would object. If you
25 review the witness's Prefiled Direct Testimony, there's

1 no information provided in the Direct Testimony that
2 addresses one of the questions asked by Ms. Edwards, and
3 that is what documents or other information did you
4 review in preparation for this hearing.

5 On those grounds I would object because he has
6 provided additional information that is not included in
7 the prefiled testimony.

8 MS. EDWARDS: We have allowed other witnesses to
9 add to their testimony.

10 MR. SMITH: I'm going to -- I'm going to admit
11 it over your objection.

12 MR. HARTER: I object because you didn't allow
13 me to. John Harter.

14 MR. SMITH: Mr. Harter, you've been allowed an
15 awful lot of pretty free questioning here.

16 CHAIRMAN NELSON: Move along.

17 MR. SMITH: We're going to move along. Again,
18 as normal, we'll begin with Mr. Clark.

19 Wait a minute.

20 MS. EDWARDS: I'm not done.

21 MR. SMITH: Oh, I thought you were. Pardon me.

22 Q. Mr. Schramm, can you very briefly summarize the
23 contents of your testimony?

24 A. Yeah. My testimony really was focused on the review
25 of the tracking changes against the Amended Order and the

1 change order as well as PHMSA documents.

2 It really was revalidating that there was an intent
3 to continue to meet the requirements as stated under 195
4 as well as the PHMSA documents, specifically related to
5 the changes that had to do with sections -- item No. 68,
6 I believe.

7 Q. Thank you. And have you had the opportunity to
8 listen to the other testimony offered in this hearing so
9 far?

10 A. Most recently since I've been here and some portions
11 of it electronically as well.

12 Q. Okay. In general and simplified terms can you
13 provide an understanding of corrosion of steel
14 structures?

15 A. Yeah. Corrosion is electrochemical in nature. It
16 has an electrical component as well as a chemical
17 component. The electrical side is DC oriented, which
18 means it has a positive and negative polarity.

19 Typically there are two forms. One is considered
20 naturally occurring corrosion. The other is considered
21 to be a straight current interference or a straight
22 current issue. There are many forms of naturally
23 occurring corrosion.

24 Q. Can you provide examples of naturally occurring
25 corrosion?

1 A. Yeah. The real fundamentals -- simplified version
2 of corrosion cell is very much -- it's essentially the
3 battery that we would use in a flashlight. The battery
4 has a zinc and copper core, and has a gel that's inside
5 that's basically an acid. This is essentially a
6 corrosion cell.

7 And so the differences between the metals of copper
8 and the differences between the zinc outer case produces
9 a 1.5 volt DC charge.

10 And so, in essence, that's a corrosion cell in that
11 it has a positive and negative component. It has a
12 environment which is the gel, and basically the metallic
13 path is through the flashlight that when you put it in
14 and connect it, it creates an electrical path that allows
15 that current to flow. It flows as a DC current from a
16 positive value to a negative value.

17 Q. How does this relate to steel?

18 A. Steel itself, down in the grain boundaries that are
19 associated with steel, have differences within the grain
20 boundary of the steel component itself. These
21 differences create the same voltage differences that
22 we're talking about within the battery.

23 Those allow areas for the current to flow, this DC
24 current, which is very small. And at the place where the
25 current flows off the pipeline and into the earth, is the

1 point where corrosion could occur, that's the anodic
2 portion where current is picked up on the pipeline or
3 where it doesn't corrode is considered the cathodic
4 location along the pipeline.

5 So there are naturally occurring anode and cathode
6 locations along the pipeline. Again, the point of where
7 corrosion occurs is the anode or where the current
8 discharges. And so that process continues until there is
9 something that basically stops that process.

10 Q. And you mentioned stray current. What then is stray
11 current?

12 A. Stray current is basically manmade corrosion. It
13 comes from sources other than naturally occurring. In
14 Chicago, for example, and other cities there are what's
15 called DC rail systems.

16 Those DC rail systems leak DC current into the
17 ground, and it's picked up on pipelines so it strays on
18 the pipeline. It also goes to other structures as well
19 so it's not confined to stray strictly on pipelines.

20 Other things could be AC systems, high powered, high
21 voltage AC systems, HVDC systems, and impressed current
22 rectifier systems, to name a few.

23 Q. What is the difference in anode versus impressed
24 current anodes?

25 A. So in the application of cathodic protection there

1 are different anode systems. A galvanic anode, as I
2 talked about the difference on a flashlight, using copper
3 and zinc to create a voltage, that same process can be
4 done to protect a pipeline.

5 Galvanic anodes typically consist of either a zinc
6 material or a magnesium material. They are basically, as
7 I said, the point what corrodes. And so they basically
8 act as the anode on the pipeline, and that's the point of
9 corrosion versus the pipeline itself.

10 Impressed current anodes function in the same way.
11 The difference is is that rather than using the natural
12 voltage difference between metals to create a current
13 flow that basically converts AC to DC, the DC is
14 generated from -- or is released on the one side, which
15 is the positive side, into what's called the galvanic --
16 or, I'm sorry, impressed current anodes.

17 Impressed current anodes basically will discharge
18 that DC current. It flows over to the pipeline, but it
19 basically has variable voltage that can be adjusted
20 versus a natural voltage that occurs between metals.

21 Q. And how does regulatory code address naturally
22 occurring corrosion on a steel pipeline?

23 A. So the bulk of regulatory code is really focused on
24 the natural occurring corrosion. That corrosion caused
25 by dissimilarities.

1 Dissimilarities require testing and monitoring on a
2 regular basis to ensure the pipeline is adequately
3 cathodically protected, that there's testing performed,
4 and it deals with the inspection of rectifiers and those
5 kind of things that relates to naturally occurring
6 corrosion.

7 Q. Okay. How is this different from the effects of
8 high voltage AC systems?

9 A. So AC voltage does create issues on a pipeline where
10 it exists. I went through my records, and I think at one
11 time there was about 38 miles of collocated right of way
12 along the entire length. I do not remember whether that
13 was in South Dakota or not.

14 However, basically AC systems induce a voltage, and
15 so it's not really -- it's caused by the electromagnetism
16 effects above. It only -- it has an issue with pipelines
17 that are directly underneath or parallel to high voltage
18 AC systems.

19 The corrosion mechanism, completely different than
20 that. It really is basically the induced voltage is
21 picked up on the pipeline, it travels down the pipeline,
22 flows off to some particular point. Where it flows off
23 it really, in simplified terms, blocks the amount of
24 cathodic protection that can reach that point. And so
25 that becomes the issue for where corrosion occurs under

1 AC.

2 Typically methods to reduce or mitigate that relate
3 to things like zinc ribbon. They're acting as ground.
4 And so, in essence, the AC instead of coming off the
5 pipeline is grounded through some other process. That
6 could be zinc ribbon that's there or things like
7 decoupled copper systems that would mitigate the effects
8 of that corrosion.

9 Q. Based on what you have heard in testimony, did
10 TransCanada appear to follow a program that meets the
11 requirements?

12 MR. ELLISON: I'm going to object unless we have
13 some kind of a -- thank you.

14 I'm going to object unless we have some kind of
15 a time basis that we're talking about. And I would also
16 object to lack of foundation for the question.

17 MR. SMITH: Okay. I'm not understanding the
18 time --

19 MR. ELLISON: In other words, were we talking
20 about 2009? Are we talking about 2010? Also there's no
21 foundation laid as to what -- how this witness -- this
22 witness is being able to give a conclusion for which
23 there is no foundation laid.

24 MR. SMITH: Ms. Edwards, do you have a response,
25 or would you just rather do a little more preparatory

1 questioning?

2 MS. EDWARDS: The time basis would be the
3 protections going forward at the current time.

4 MR. ELLISON: Okay. Other than hearing it from
5 you, we haven't heard it from the witness.

6 MS. EDWARDS: If you'd like, I could ask him.

7 MR. ELLISON: You proceed however you think it's
8 appropriate, ma'am. I will make my objections as they
9 are appropriate.

10 MS. EDWARDS: I can ask another question and
11 move on.

12 Q. Switching to the issue of UV damage to FBE coating,
13 can you provide any additional insight into the potential
14 damage to FBE coated pipeline?

15 A. Yeah. So all epoxy type coatings including fusion
16 bonded epoxy do not have an inherent resistance to
17 ultraviolet. And so when the pipeline is stored above
18 grade at some point the ultraviolet light also with some
19 humidity effects begins to degrade the outer surface of
20 the FBE and it's only in effect on the outer surface and
21 it typically produces a chalking effect. The chalking
22 effect is actually effective, as long as the chalking
23 effect is there.

24 However, things like high heavy rain events or other
25 things could remove that chalking, and so that would

1 continue. There are differences in the UV light. In
2 other words, this is a direct light. UV light is
3 reflective. In other words, when it hits an object it
4 reflects backwards. It pretty much goes back in the same
5 direction. So scattered UV light doesn't have an effect.

6 So when the pipes are basically shielded or shadowed
7 by other pipelines buried in the depth the ultraviolet
8 light can't reach that particular thing because it
9 bounces off the objects below. So talking about where
10 the ultraviolet, it's usually the top areas of the pipe
11 or areas that are directly in the extent.

12 The other differences is ultraviolet is basically
13 direct ultraviolet. And so if you think about
14 ultraviolet light in the southern latitude where you're
15 at the equator, the light is fairly direct. It basically
16 impacts the objects more directly. The farther you move
17 north the UV light basically does not -- is not the same
18 direct method. So there are changes in the rate based on
19 UV rate based on latitude, sun strength, how much clouds
20 are out there the particular day. So it varies from that
21 particular standpoint.

22 Q. How does this relate to the thickness of the FBE
23 coating installed on the pipeline?

24 A. So pipeline coatings again have typically
25 specifications that relate to how they are coated from

1 the manufacturer coating plant. Typically that's
2 specified as a minimum or a maximum or an average kind of
3 nominal value that the pipe coating is supposed to do.

4 And so the effects of ultraviolet light have minimal
5 effects at the beginning. Then it produces a short -- a
6 rate over a period of time, and that's varying again on
7 the amount of exposure from direct UV light. And so
8 again something positioned in the northern hemisphere may
9 be totally different than what's positioned somewhere
10 else.

11 And so the chalking effect basically occurs at that
12 point. Most companies have some kind of procedure that
13 covers what to do for that and addresses that from a
14 mitigation standpoint.

15 Q. Thank you. And from an industry standard
16 standpoint, in general what are the procedures used to
17 assess a coating prior to installation?

18 A. So installation there's a number of observations
19 that can be made. Testimony was given before about
20 thickness gauges that can basically measure the thickness
21 of the coating against the standard.

22 There's also been discussion about Holiday testing
23 using equipment that would measure against the thickness
24 of the coating for Holidays.

25 That equipment is electrical in nature. There are

1 equations that basically are used to calculate what
2 voltage that is set at. Typically you're looking for to
3 establish that at some minimum value such as the minimum
4 value of the coating specification.

5 Once it's set there you're really qualifying that
6 minimum thickness across the entire length of the pipe as
7 that pipe length is evaluated by that type of equipment.

8 MS. EDWARDS: Thank you. No further questions.

9 MR. ELLISON: Was there a motion to admit
10 Exhibit 3007?

11 MR. SMITH: Yes, there was.

12 MR. ELLISON: Oh, I'm sorry. I must have missed
13 it.

14 At this time I would move to strike the
15 testimony of Mr. Schramm as under the definition of
16 TransCanada as to what these proceedings are about as
17 accepted by this Commission, this witness has offered no
18 relevant testimony.

19 In addition, he stated that although at one
20 point he knew that there were power lines along 35 miles
21 of the pipe, he's not even sure whether any of it has to
22 do with South Dakota. So his testimony is additionally
23 irrelevant.

24 MR. SMITH: I'm going to overrule, and the
25 Commission can give it the weight that they deem it

1 deserves.

2 MR. GOUGH: InterTribal COUP would join in that
3 objection.

4 MR. RAPPOLD: As does Rosebud.

5 MR. BLACKBURN: And Bold Nebraska.

6 MR. CLARK: Cheyenne River Sioux Tribe also
7 joins in the objection.

8 MS. BAKER: Yankton Sioux Tribe joins on the
9 grounds stated in the objection, as well as the grounds
10 of hearsay.

11 MS. LONE EAGLE: I also join.

12 MS. CRAVEN: IEN joins the objection as well and
13 also wants to join the comments of Yankton Sioux Tribe.

14 MR. SMITH: Okay. With that, does Keystone have
15 any examination of this witness before we go to
16 Intervenors?

17 MR. WHITE: Keystone has no questions for
18 Mr. Schramm.

19 MR. SMITH: Okay. Then we'll go to Mr. Clark.

20 MR. CLARK: Cheyenne River Sioux Tribe has no
21 questions for this witness.

22 MR. SMITH: Okay.

23 Mr. Rappold.

24 MR. RAPPOLD: I think we'll have a few,
25 Mr. Smith.

1 Thank you.

2 CROSS-EXAMINATION

3 BY MR. RAPPOLD:

4 Q. Good morning, Mr. Schramm. My name is Matt Rappold.
5 I represent the Rosebud Sioux Tribe. Your testimony
6 indicates that the purpose of your testimony is to ensure
7 the Applicant has met new requirements.

8 Would it be your understanding then that there are
9 new requirements that were not part of the underlying
10 initial Permit?

11 A. No.

12 Q. There are no new requirements?

13 A. My review was of the documents that were contained
14 in there. So the amended documents as they were amended
15 and whatever that contained I've reviewed against those
16 amendments.

17 And I reviewed the context of the PHMSA document as
18 well as Appendix Z that was provided by TransCanada for
19 those changes as well. So if there were changes in those
20 documents, that was covered in my review.

21 Q. I'd direct you to page 3 of your direct testimony.
22 I'm sorry. I don't recall the exhibit number.

23 A. Yes.

24 Q. The question that starts at line 4, "Please state
25 the purpose of your testimony in this proceeding."

1 I'll kind of jump down to the middle of the answer
2 there where it starts "Secondly, the objective is to
3 ensure that the Applicant has met any new requirements
4 imposed by the Federal Pipeline Safety Regulations, 49
5 CFR 195, since the Amended Final Decision and Order was
6 issued on June 29, 2010, with respect to the Application
7 for a Permit."

8 I'll leave the last part of the answer off.

9 A. Uh-huh.

10 Q. And then I asked you if there were new requirements,
11 and you said no, there weren't any new requirements.

12 Is that your testimony?

13 A. In the context of your question, yes. In the
14 context of this item, I reviewed basically the changes
15 that occurred under 195. None of them are substantive to
16 corrosion control. And so they were not part of then my
17 assessment because they really didn't relate to any
18 changes under 195 code that related to the specific
19 aspect of my review related to corrosion and cathodic
20 protection.

21 Q. Okay. But there are new requirements.

22 A. There are a number of changes that have occurred in
23 code over time.

24 Q. Sure.

25 A. None of them relate to corrosion control.

1 Q. Okay. Did you go further into the Permit or the
2 Findings to determine if there may be any other
3 information relevant to your testimony that was not
4 provided by TransCanada in the Tracking Table of Changes?

5 A. Other than the documents I referenced as far as what
6 was contained in those documents and what was contained
7 in testimony, no. Or prefiled testimony.

8 Q. So you basically just looked at what they told to
9 you look at?

10 A. I was provided -- I reviewed documents, yes.

11 Q. The ones they suggested?

12 A. Whatever was up on the website for the PUC.

13 Q. Okay.

14 MR. RAPPOLD: Thank you. I have no further
15 questions.

16 MR. SMITH: Mr. Capossela.

17 CROSS-EXAMINATION

18 BY MR. CAPOSSELA:

19 Q. Good morning, sir.

20 A. Morning.

21 Q. My name is Peter Capossela. I'm a lawyer for the
22 Standing Rock Sioux Tribe of South Dakota and North
23 Dakota.

24 You've stated that there are a number of changes
25 that have occurred over time. Have there been any

1 changes in PHMSA regulations or other regulations that
2 apply to the pipeline since the Keystone -- the
3 South Dakota PUC Permit was issued for Keystone XL in
4 South Dakota on June 29, 2010?

5 A. Could you repeat the question.

6 Q. Have there been any changes in PHMSA regulations or
7 any other applicable regulations since June 29, 2010?

8 A. Again, I think the way I stated it is there have
9 been changes, but they don't relate to the aspect of my
10 review related to corrosion control.

11 Q. But there have been changes?

12 A. As far as I understand, yes.

13 Q. Now Ms. Kothari of TransCanada testified -- I asked
14 her the same question, and she testified that there have
15 been no changes.

16 How can you reconcile your response with her
17 response in the same question?

18 A. I'm going to defer to Jenny Hudson. She has
19 provided that in her testimony. She will come up.

20 Q. Was Ms. Kothari wrong in answering the question if
21 she said there were no changes?

22 A. I can't answer that. I don't know how to answer
23 that.

24 Q. What's the name of your firm?

25 A. EN Engineering.

1 Q. And does EN Engineering have a contract with a
2 South Dakota State agency?

3 A. I am under contract under -- as support for
4 South Dakota PUC.

5 Q. Is there -- EN Engineering then has a contract with
6 South Dakota PUC? Is that how it works?

7 A. I am working under a -- they have requested our
8 services to provide them support related to technical
9 information specifically related to codes, cathodic
10 protection, integrity, those kind of things that we
11 provide their Staff support.

12 Q. So are you a consultant for the PUC?

13 A. In essence, I would say, yes.

14 Q. And is the PUC a agency of the State of South
15 Dakota?

16 A. Yes.

17 Q. Does the -- to your knowledge, does the leadership
18 of the State of South Dakota support the Keystone XL
19 Pipeline?

20 MS. EDWARDS: Objection. Beyond the scope.

21 MR. SMITH: Sustained.

22 MR. ELLISON: Goes to bias and interest.

23 MR. CAPOSSELA: There is information that the
24 Commission accepted at public hearings from the
25 leadership of the State that directly -- right on point

1 to my question.

2 And so the -- you know, there's information
3 that's going to be considered presumably by the
4 Commission that directly relates to my question. It
5 clearly is within the cross-examination rights that
6 Standing Rock has under the statute. It is beyond the
7 scope, fair enough, but it's -- it goes to the
8 objectivity of the testimony that's been offered by the
9 witness.

10 I would ask that I be permitted to have an
11 answer from the -- from the witness to my question. It
12 is beyond the scope, but it's still within the right of
13 cross within the statute because it goes to the
14 objectivity and whether the witness has any bias.

15 MR. SMITH: Do you want to repeat the question,
16 Cheri.

17 MR. CAPOSSELA: Does the leadership of the
18 State of South Dakota -- to his information is he aware
19 if the leadership of the State of South Dakota supports
20 the construction of the Keystone XL Pipeline.

21 And I'd ask that the witness be directed to
22 answer the question, if he knows.

23 MS. EDWARDS: I'm going to also object as to
24 vagueness. I don't know who he means by leadership of
25 South Dakota.

1 MR. CAPOSSELA: If he knows if the Governor, for
2 example, supports the construction of the Keystone XL
3 Pipeline. He may not know but he may know and I think
4 it's a fair question to ask if he's working for the PUC.

5 MR. SMITH: Do you know?

6 A. No. I do not know.

7 MR. CAPOSSELA: I'm going to approach the
8 witness with a document. I'll give a -- show a copy to
9 counsel for TransCanada also.

10 Q. Ask you to take a look at that.

11 MS. EDWARDS: As it's my witness, I would like a
12 copy as well.

13 Q. Mr. Schramm, I've given you a document. Could you
14 explain what that document is?

15 A. This is a document entitled at the top State of
16 South Dakota. It's from Dennis Daugaard, Governor. It
17 was written on July 6, 2015. It was written to
18 Chris Nelson, Chairman of the South Dakota Public
19 Utilities Commission.

20 It says Dear Chairman Nelson: I'm writing to urge
21 your approval of TransCanada's Permit and urge your
22 consideration of reauthorization -- I'm summarizing the
23 document rather than reading all of it.

24 Q. That's fine. Does it help you answer the question
25 of whether the Governor supports the construction of the

1 pipeline?

2 A. Based on this document, it would suggest the
3 government supports the pipeline.

4 MR. CAPOSSELA: Thank you. I have no further
5 questions for this witness. I will approach and get my
6 document.

7 MR. SMITH: Ms. Real Bird or Ms. Baker.

8 CROSS-EXAMINATION

9 BY MS. REAL BIRD:

10 Q. Good morning, Mr. Schramm.

11 A. Good morning.

12 Q. My name is Thomasina Real Bird. I'm an attorney for
13 Yankton Sioux Tribe.

14 Is the bachelor's of science degree the only degree
15 you hold?

16 A. That is the only degree I hold.

17 Q. What type of bachelor of science degree is that?

18 A. It's research management with a concentration in
19 forestry.

20 Q. And I see that from your prefiled testimony that
21 you're employed as vice president, senior project manager
22 by EN Engineering, which as you testified is an
23 engineering and consulting firm; is that correct?

24 A. That is correct.

25 Q. Are you an engineer?

1 A. I am not a degreed engineer.

2 Q. So your specific role at EN Engineering is not as
3 engineer. Is it safe to conclude that your role at EN is
4 that of a consultant?

5 A. My role at EN Engineering is supportive because of
6 my technical knowledge and background related to
7 corrosion control.

8 Q. So your role is -- what was that? Could you repeat
9 that?

10 A. It's based on my technical abilities and 35 years of
11 experience in corrosion and cathodic protection.

12 Q. Are you represented here today by an attorney?

13 A. Under the State of South Dakota. No. I don't know.
14 No.

15 Q. Did you consult with your own attorney in the
16 preparation of your testimony?

17 A. No.

18 Q. I do have a question about your prefiled testimony
19 on page 3 and your answer beginning on line 5.

20 Is it your testimony that the first purpose of your
21 testimony is to ensure that the proposed changes to the
22 Findings of Fact and the Decision as identified by
23 TransCanada Keystone Pipeline's Tracking Table of Changes
24 comply with Federal Pipeline Safety Regulations
25 49 CFR 195?

1 A. Yes.

2 Q. What did you mean by "proposed changes" as that
3 phrase is used in your testimony?

4 A. Well, those are the changes based on the review of
5 the documents and whatever changes existed within the two
6 documents based on the original PUC document and the
7 changes in amendments.

8 So it's simply changes in direction between those
9 two particular documents and any change that results as a
10 result of that tracking change against the original list
11 as provided.

12 Q. And that's the proposed changes to the Findings of
13 Fact?

14 A. Not Finding of Fact because they're basically not
15 changing. But any of the additions that occurred between
16 the amendment and the original document.

17 Q. Well, your testimony reads the purpose is, first,
18 and I'm quoting "to ensure that the proposed changes to
19 the Findings of Fact in the Decision."

20 A. It may have been poorly worded, but the intent of
21 how I was doing it was looking at those documents for the
22 changes to be able to say based on those changes in the
23 review, the changes that happened -- that review against
24 195, to ensure that 195 requirements were still being --
25 continued to be met as what was testified in 2009, under

1 that basis -- I'm sorry. The original. Whatever. Yeah.
2 2009.

3 Q. Who directed you to include that as one of the
4 purposes of your testimony?

5 A. That was my understanding from the scope of what we
6 are required to evaluate. That was how we wrote that,
7 based on scope from South Dakota PUC.

8 Q. You received the scope from the South Dakota PUC
9 Staff?

10 A. And direction, yes.

11 Q. Which member of the Staff?

12 A. I don't know. I work -- I just work under a
13 contract. So I -- that was the guidance given to me
14 under the scope. Under the proposals.

15 Q. Did you prepare the text of your testimony, or was
16 it prepared by somebody else?

17 A. No. I prepared it.

18 Q. Did you prepare the questions?

19 A. Yes.

20 Q. You prepared the entire document?

21 A. Yes.

22 Q. Who was it reviewed by prior to filing?

23 A. It was reviewed in-house, and it was sent up to the
24 PUC Staff.

25 Q. Which member of the PUC Staff?

1 A. I don't know. I'm not the lead -- on the lead. I
2 don't know.

3 Q. And then were there changes suggested by PUC Staff
4 to your testimony?

5 A. No.

6 Q. In your work did you consider compliance -- in your
7 work for this hearing, did you consider compliance of the
8 project as a whole or just those changed circumstances
9 addressed in the proposed Tracking Table of Changes?

10 A. Strictly the tracking changes.

11 Q. Your testimony mentioned one instance -- I'll
12 restart.

13 Your testimony mentioned one instance in which an
14 adjacent foreign utility interfered with the cathodic
15 protection system based on Keystone's Tracking Table of
16 Changes No. 68.

17 Was there any spill associated with that incident?

18 A. Not to my knowledge.

19 Q. How do you know -- how did you reach that
20 conclusion?

21 A. Based on the inference -- my role was to assess that
22 against the technical terms of what stray current
23 interference meant. And the plans and procedures that
24 basically would exist related to stray current and the
25 effects and whether the code requirements that were

1 related to stray current was there.

2 My understanding and my answer were based on my
3 assessment of the understanding of stray current and that
4 it wasn't referred to as a leak but stray current issue
5 related to corrosion. So my assumption is there was not
6 a leak there.

7 Q. So you do not know --

8 A. Specifically, I do not know whether there was or
9 wasn't a leak.

10 Q. Okay. What was the foreign utility that you
11 mentioned in your testimony?

12 A. I was only referencing that a -- an outside utility
13 based on the notes that were in that tracking change.
14 That's all I know.

15 Q. Oh. So you don't know which --

16 A. I have no details in regard to that incident. I was
17 not provided those details.

18 Q. Okay. And your prefiled testimony states that no
19 similar situations exist on the project in South Dakota.

20 Why were the circumstances of that incident not
21 similar to the proposed pipeline crossing a water
22 pipeline?

23 A. Stray current has to involve manmade sources outside
24 of the -- created by some manmade source. All right.
25 And so stray current has to have some form of current

1 that exists. Right.

2 So my assumption is is that based on that -- based
3 on that, was that there were no other issues associated
4 with that from that standpoint.

5 Q. So okay. Your answer then is based upon an
6 assumption?

7 A. No. My answer is based on the review of stray
8 current interference in context to code requirements.
9 And stray current is being defined as an issue within
10 code requirements under Section 195 and the code
11 requirements associated with 195 and those prescribed by
12 PHMSA to address stray currents regardless of where they
13 are at and where they could occur.

14 Q. And your testimony states that one of the Special
15 Conditions recommended by PHMSA should address the
16 detection and mitigation of stray DC current effects. We
17 have previously heard testimony that TransCanada's
18 compliance with those Special Conditions is voluntary.

19 Is it safe to say then that we should expect
20 detection of mitigation problems from stray DC currents
21 in the event that TransCanada later chooses not to comply
22 with the voluntary special Condition you referenced?

23 A. No. Under 195 there are two specific requirements
24 for stray current interference. The first one relates to
25 the design of cathodic protections on their part must be

1 done to minimize stray currents on other sources.

2 The second one is they must maintain and have an
3 active program to detect, mitigate, and reduce stray
4 current effects.

5 MS. REAL BIRD: Could we get the witness to
6 answer the question.

7 THE WITNESS: Could you repeat it?

8 MR. SMITH: Pardon me?

9 MS. EDWARDS: I think she needs to ask the
10 question in a manner so it can be answered.

11 MR. SMITH: I think he answered it as best he
12 could. I had trouble comprehending it, to tell you the
13 truth.

14 But can you repeat the question, Cheri.

15 Q. We heard testimony that TransCanada's compliance
16 with Special Conditions is voluntary.

17 In the event TransCanada later chooses not to comply
18 with voluntary Special Conditions that were referenced in
19 Mr. Schramm's testimony, is it safe to say then that we
20 should expect detection of mitigation problems from stray
21 DC currents?

22 A. No.

23 MS. REAL BIRD: Mr. Smith, we'll renew our
24 motion to strike this witness's testimony in that it is
25 based on hearsay, not within any exception. It's based

1 on information provided to him from the Applicant, and it
2 assumes the truths of those items that he reviewed.

3 MR. SMITH: Denied.

4 Do you have additional questions?

5 MS. REAL BIRD: That concludes. Thank you.

6 MR. SMITH: Mr. Blackburn.

7 CROSS-EXAMINATION

8 BY MR. BLACKBURN:

9 Q. Thanks for being here. Were you present during the
10 testimony of Heidi Tillquist?

11 A. In parts.

12 Q. Okay. Were you here during the testimony of
13 Meera Kothari?

14 A. Yes. In parts. In and out obviously.

15 Q. Yeah. You had described -- I'm just going to do a
16 few clarifying questions. It won't be much.

17 You described zinc and possibly magnesium anodes.
18 That's passive anodes?

19 A. Galvanic anodes or sacrificial anodes.

20 Q. That was my question is they're also called
21 sacrificial anodes?

22 A. That's correct.

23 Q. Why is that?

24 A. Cathodic protection, basically when you apply
25 cathodic protection to the pipeline you are essentially

1 removing the anodic -- so the area that are considered
2 anodic on the pipeline, which is the point that corrodes
3 under cathodic protection, you're basically moving that
4 to the anodes.

5 So you're basically sacrificing the anodes to save
6 the pipeline. So that's the word where sacrificing comes
7 from.

8 Q. So maybe for people here, it's sort of like the
9 sacrificial anode rusts, corrodes away, instead of what
10 you're trying to protect?

11 A. In essence. Yes. You're basically moving the point
12 of corrosion from the pipeline to the anode, galvanic
13 anode, and the galvanic anode then corrodes or loses
14 weight for that current that's being applied.

15 So you move the anode over -- or the anodic area
16 from the pipeline to the anode, which then corrodes.

17 Q. So does that mean that a sacrificial anode typically
18 would have a limited lifespan in a corrosive
19 environment?

20 A. There are design lives for the anodes and design
21 calculations that can be done for those anodes. They
22 essentially could be designed for any particular design
23 life as specified.

24 Q. Uh-huh. Depending on essentially how large it is?

25 A. Depending on how large, how long. All of that

1 relates to that as well as the soil resistivity values
2 that would be in the area where the anode's installed.

3 Q. Uh-huh. And you made a distinction between natural
4 versus unnatural corrosion.

5 A. Stray current.

6 Q. Stray current. Right.

7 And from your testimony there's both AC and DC stray
8 current?

9 A. Stray current can exist both AC and DC. DC is
10 generated from stray DC sources. AC is basically really
11 confined to high voltage AC systems, typically 169 kV and
12 higher.

13 Q. Uh-huh. Could you describe in simple terms maybe
14 the difference between the effects -- potential effects
15 of a pipeline on stray AC current versus stray DC
16 current?

17 A. It's not necessarily the effects. They both deal
18 with wall loss. In other words, the wall is consumed.
19 It's the mechanisms that basically relate to how that
20 wall is done.

21 It's not related to DC corrosion. It's a
22 fundamental on the AC side is that the amount of induced
23 voltage that is picked up on the pipeline flows in a
24 particular direction and basically comes off the pipe at
25 points of low resistant contact to the earth. And it can

1 be an extreme amount of current because of the amount
2 that's picked up.

3 And, in essence, it blocks the cathodic protection
4 from reaching there because there's so much AC current
5 off the pipe, the DC can't reach that point to provide
6 cathodic protection.

7 So the mitigative measures, the things you do there,
8 are different. You're not really relying on galvanic
9 anodes to provide cathodic protection. You're using
10 those anodes basically as a ground source so that that AC
11 current instead of flowing off the pipeline flows off the
12 ground. And it's very much like ground rods you would
13 put in your home or anything else to protect from an AC
14 grounding discharge.

15 Q. So, essentially -- let's see if I get this simpler
16 version down right. If you can get the AC stray current
17 to avoid the pipeline by going straight into the ground,
18 then you can protect the pipeline?

19 A. In essence, that's probably a true statement.

20 Q. Okay. Do DC stray currents create any unique
21 problems or risks for pipelines?

22 A. If they -- by the implication that they're stray,
23 which means they basically -- so what happens on the
24 currents is they flow in resisted paths. Right. It
25 takes the path of least resistance.

1 If that current strays onto a pipeline because
2 that's the path of least resistance, it may flow down
3 that pipeline and eventually come off the pipeline to the
4 source. Because electricity has to complete a source,
5 whether it's AC or DC. And where it flows off the
6 pipeline -- again, where any electrical current flows off
7 the pipeline, DC oriented is the point of where corrosion
8 could occur on a steel pipe.

9 Q. Uh-huh. The way it's described to me, and it could
10 be wrong, is that an AC current that's alternating -- so
11 it's positive, negative, positive, negative?

12 A. It has no polarity. It basically has a sine cosine
13 wave.

14 Q. But the effect of a AC current is that it will
15 induce corrosion and not induce corrosion and reduce
16 corrosion because the current is alternating?

17 A. It has to do more with the stress values that are
18 coming off at that point. In a simplified -- really
19 simplified example, if you think of the AC current coming
20 off the pipeline as a whole ton of sharks, and I'm trying
21 to get cathodic protection, which is very small voltage
22 as the minnow, I can't get the minnow up against the
23 pipeline because there's too many sharks coming off. Is
24 that a good example?

25 So it's really the amount of current flow that's

1 coming off the pipe at that point. So there is some
2 theory that says because half the wave of AC is DC, that
3 some of that contributes to the AC corrosion that exists
4 for that. So, in essence, I think we're saying the same
5 thing.

6 Q. Yeah. I like your shark analogy so let me try this.

7 When the AC, the sharks, are pointing one way,
8 biting one direction, and when the polarity switches are
9 turning --

10 A. No. That does not exist. It's not that process.

11 Q. Okay. Could you describe, is there a greater
12 potential for corrosion from DC stray current given the
13 same voltage level of AC current?

14 A. Not necessarily related.

15 Q. If a high voltage DC power line goes to ground near
16 a pipeline, is there any greater risk than if a high
17 voltage AC power line goes to ground?

18 A. I'm sorry. Repeat -- give me the two references
19 again.

20 Q. If a high voltage AC -- or sorry. DC.

21 If a high voltage DC power line goes to ground near
22 a pipeline, is there any risk of a comparably high
23 voltage -- different from a comparably high voltage AC
24 power line going to ground near that pipeline?

25 A. Okay. You've added in the time now -- we're talking

1 about HVDC now, which was not part of any conversation.

2 Q. I should take a step back.

3 Could you define stray voltage?

4 A. Well, stray voltage is basically electrical current,
5 whether it's AC or DC, that flows in the ground that
6 strays on to a source metal object. It could be a
7 pipeline. It could be any other metal object.

8 And when the strays on there it gets picked up due
9 to the low resistance of the metallic path and flows into
10 the metallic path and eventually has to complete the
11 circuit by going into the ground.

12 Q. Is a power line failure where the entire voltage of
13 the power line goes to ground near a pipeline considered
14 stray voltage?

15 A. There would be stray voltage in the ground at the
16 event that a power line wire would go down, yes.

17 Q. Right. Are there any unique concerns related to a
18 high voltage DC source going to ground near a pipeline?

19 A. So high voltage DC is different than high voltage
20 AC.

21 Q. Right.

22 A. We're dealing with direct current under a HVDC
23 system. There is a polarity that's now on a HVDC system.
24 The difference being between the two is because the
25 polarity is going in one particular direction, that

1 typically when you have a fault on a HVD system, yes,
2 there is DC current going into the ground, but the
3 reaction time of equipment is much shorter because the
4 current's flowing in one direction and so basically the
5 equipment that's monitoring that shuts off quicker than
6 an AC ground.

7 Q. So you're saying there's no difference in terms of
8 the practical effect of a high voltage DC power line
9 going to ground versus a high voltage DC power line going
10 to ground? Is that what you're saying?

11 A. Can you define what kind of HVD system it is?

12 Q. A typical HVDC power line.

13 A. So there's three different kinds. Can you tell me
14 which one you would like me to use?

15 Q. Why don't you go through all three.

16 A. Okay. There's a monopolar mode, there's a bipolar
17 mode, and there's a bipolar mode with a DMI. Right? All
18 three of those are HVDC systems.

19 Under monopolar, probably the effects of a monopolar
20 HVD system, which is typically not allowed to be used on
21 ground conditions -- they're typically used in ocean
22 conditions -- probably would produce a corrosion rate
23 higher, in my opinion, than an AC issue.

24 When you get a bipolar system related to bipolar
25 operation, it goes to a monopolar mode, they're probably

1 equivalent in value from those kind of things. If it was
2 a HVDC system using a DMI, probably less than HVAC
3 system.

4 Q. Are you aware of PHMSA studies related to HVDC
5 systems?

6 A. I've read a lot of --

7 MS. EDWARDS: I'm going to object as to
8 relevancy. We have not established if there is a high
9 voltage AC power line in the state of South Dakota.

10 MR. ELLISON: Exactly why his testimony is
11 irrelevant.

12 MR. BLACKBURN: Well, I would say, first off,
13 that there is one near to South Dakota. But also this
14 goes to the credibility of the witness and whether the
15 witness is going to be clearly answering questions about
16 the difference between AC and DC current and its effects
17 on pipelines.

18 MR. SMITH: Yeah. I'm going to overrule.

19 I mean, there isn't an HVDC line now, but that
20 doesn't mean there couldn't be one five years from now.

21 MR. BLACKBURN: And I'll be wrapping up this
22 very quickly.

23 MR. SMITH: Thank you.

24 MR. BLACKBURN: So could we reread the question.

25 (Reporter reads back last question.)

1 A. I've read a number of studies. I believe those
2 PHMSA documents are included in that.

3 Q. Uh-huh. And has PHMSA identified any particular
4 concerns about DC -- high voltage DC power line systems
5 with regard to their effect on pipelines?

6 A. Yes. They have an effect. I'm not arguing --

7 Q. I didn't say whether they had an effect. I said
8 have they identified particular effects or concerns
9 related?

10 A. There are particular effects and concerns related to
11 HVD systems on pipelines, yes.

12 Q. Thank you.

13 With regard to fusion bonded epoxy coatings, you --
14 do you know of or do you have any -- let me redo this.

15 Could you identify the regulations related to the
16 length of time that FBE coating can be left uncovered to
17 UV radiation?

18 A. I don't believe there's any 195 document related.
19 They're typically related to things like the National
20 Association of Pipeline Coating Applicators or those
21 provided by manufacturers.

22 Q. I'll be getting to that. Are there any regulations
23 related to that?

24 A. No regulations that I'm aware of, no.

25 Q. Okay. And I was just going to move into what

1 industry standards exist for the length of time that FBE
2 coating can be left exposed to UV radiation.

3 A. So as I was saying, the National Association of
4 Pipeline Coating Applicators has recommendations related
5 to how they feel that pipeline coating should be covered
6 in the event that it's out for exposure, as well as
7 manufacturers have their suggested values as well.

8 Q. Uh-huh. And do you know -- for the first of those
9 you said there's the -- could you repeat the association
10 again, the name of the association?

11 A. National Association of Protective Coating
12 Applicators.

13 Q. And do you know what the standards are, what --

14 A. They recommend about basically applying some kind of
15 protective coating within six months.

16 Q. All right. And do you have -- do you have a
17 citation to that recommendation?

18 A. Citation?

19 Q. Like whether there's any numerical identification
20 for what that standard is?

21 A. No. I'm just referencing a general from that. I
22 mean, the documents coming from manufacturers are similar
23 in there. It's typically a 12- to 18-month time frame.
24 Though, it varies. It all varies.

25 Q. You said six months the first time from the National

1 Association of Protective Coating?

2 A. So if I use a Scotch reference, in other words, I
3 went to Scotch and asked them -- 3M, which provides
4 fusion bond epoxy, their recommendation is between 12 and
5 18 months.

6 So I'm not saying there's a particular single
7 standard out there. There are general standards that
8 range between six months and 18 months, depending on how
9 you look at those standards and what you use.

10 Q. Uh-huh. Do any governments have any standards
11 related to their protection of epoxy coated equipment or
12 materials?

13 A. If they would -- I don't believe in the
14 United States. There could be under DIN standards or
15 European standards. I would have to go back and research
16 those.

17 Q. Would you expect that the FBE supplier that was for
18 the coating on the pipe provided to TransCanada for the
19 Keystone XL Pipeline would have some sort of
20 recommendation related to protection of their FBE?

21 A. Most product vendors such as Scotch would have a
22 recommendation, yes.

23 Q. Are you aware of who the product vendor was --

24 A. I am not.

25 Q. How many product -- are you aware of how many

1 product vendors there are roughly that would provide
2 product to pipeline coaters?

3 A. Somewhere in the range of five to seven.

4 Q. So not a huge number of them.

5 Are you familiar with the product coatings for
6 those five to seven companies? Are they roughly the same
7 or --

8 A. The only one I remember off the top of my head is
9 the Scotch one, which is predominantly the one in the
10 coating system so --

11 Q. So the other ones could vary?

12 A. Could vary. And again there's no set standard so
13 again between the two I just gave you, it's between six
14 and 18 months. General it's probably all roughly the
15 same.

16 Q. Now are you familiar -- you're not a chemist?

17 A. I am not a chemist.

18 Q. You've had some chemistry training, though, I
19 assume, in your background?

20 A. I've had some chemistry training.

21 Q. Right. Does the amount of time that it can be
22 exposed vary by the chemical composition of the
23 particular manufacturer's epoxy?

24 A. There are some variances on the effect based on how
25 the chemical -- based on how the manufacturer tweaks its

1 different versus the others. There could be some
2 variance associated with that manufacturer's -- how he
3 provides that product.

4 Q. Do the chemical compositions of epoxy -- strike
5 that, and let me take it back.

6 Do some epoxy manufacturers include particular
7 chemical additives that provide UV protection for their
8 epoxies?

9 A. UV is very difficult with epoxies. Epoxies don't
10 normally have a resistance. There are some that add more
11 or less and attempt to reduce the UVs. But it doesn't
12 necessarily limit the issue with UVs.

13 Q. So what you're saying is that adding protective
14 chemicals to epoxy composition doesn't totally eliminate
15 the potential for UV damage?

16 A. Not in general. It still has a UV damage issue. It
17 could reduce the rate, but it may not successfully stop
18 the rate.

19 Q. So, for example, the Scotch standard that you
20 referenced might be for an epoxy that has chemical
21 additives that reduce the rate of UV decomposition?

22 A. Could or could not. I don't know. I can't answer
23 that.

24 Q. Uh-huh. Would you expect that epoxies that are made
25 to be applied in above surface -- above-ground

1 installations to be more likely to include UV resistive
2 chemicals in them?

3 A. So now you moved from an epoxy as a general class of
4 coatings; right?

5 Q. Uh-huh.

6 A. Fusion bonded epoxy is a coating that's normally
7 typically used below grade. There are epoxies that are
8 used above grade. Epoxies traditionally used above grade
9 have the same chalking issues as well and are typically
10 over applied with some other coating system to protect
11 against UV, such as a urethane type coating.

12 Q. Sure. Are you aware of any completely clear coat,
13 meaning completely transparent, nontinted color coatings
14 that would protect an epoxy, FB epoxy --

15 A. A polyurethane or urethane component, which is very
16 similar to what they use on cars, would provide that.

17 Q. Uh-huh. And so are those completely clear?

18 A. They have a slight kind of yellowish continuity to
19 them, but they're -- basically you can see through them
20 to see the color beneath them.

21 Q. Are they frequently used to protect something like a
22 large amount of pipe in the field that needs to be
23 protected from UV?

24 A. That is one of the elements that could be used, yes.

25 Q. Would they be -- would such polyurethanes or other

1 kinds of clear coats be more expensive than a nonclear
2 white paint?

3 A. I don't have any relevance on cost. I don't know.

4 Q. Are you aware of any studies related to the
5 resistance of FBE epoxies to UV radiation?

6 A. I am aware of studies, yes.

7 Q. Can you offhand say what journals or where those
8 studies might be located?

9 A. The study, again, I'm most familiar with is this
10 one's manufactured by Scotch, which is the manufacturers.

11 Q. Uh-huh. And you said that you are a -- correct to
12 say a member of NACE, N-A-C-E?

13 A. I'm a member of NACE and a NACE certified cathodic
14 protection specialist.

15 Q. Has NACE conducted any studies in that regard?

16 A. Not that I'm -- not that I remember directly. They
17 have a lot of standards related to how to test FBE
18 coatings, Holiday testing, and those kind of things.

19 Q. And could you describe -- this will be my last
20 question, I believe -- what a --

21 If you left FBE epoxy on a pipe out unprotected for
22 an extended period of time, what would the process of
23 complete failure, system failure, be? Of complete epoxy
24 failure be?

25 A. So, again, depending on where the pipe is in

1 relationship to the direct rays of the sun, all of this
2 has a variance impact. Right?

3 Q. Sure.

4 A. And so if I was to provide typical ranges. Okay?

5 Q. Uh-huh.

6 A. A typical range for the period of a year was about
7 three-quarters of a mil at the end of one year. Between
8 the 12 and 18 months continuous after that on a yearly
9 rate it could progress somewhere between three-quarters
10 of a mil to 1.5 mils.

11 Q. After 18 months?

12 A. On a yearly basis. So on a yearly basis it would
13 progress each year additional somewhere between
14 three-quarters and 1.5 mils on an annual basis.

15 Q. So that rate, what you're saying is if the -- given
16 that the prior testimony was that the FBE thickness was
17 between 14 and 20 mils, that you would -- and you were
18 saying roughly a mil and a half per year degradation?

19 A. At the max -- at a high level, yes.

20 Q. So if it was one mil a year --

21 A. 14 years. Right.

22 Q. Then you would expect the FBE could be left outside
23 for 14 years in the sunshine without any failure?

24 A. No. I didn't say that.

25 Q. That would be bare metal at that point?

1 A. Yes. Essentially the coating could be completely
2 gone, could be completely gone at that point.

3 Q. After 14 years.

4 A. If it was a 14 mil coating and it basically consumed
5 at a 1 mil per year value at that area where the UV was
6 consuming, it would be gone in 14 years, yes. Just
7 simple math.

8 Q. Do you have any personal experience with epoxies,
9 use of epoxies?

10 A. Yes.

11 Q. How have you used epoxies yourself?

12 A. How do I use epoxies?

13 Q. Yes.

14 A. In more -- I need more context.

15 Q. Your personal experience directly with using
16 epoxies. I mean, you've -- where you watched it --

17 A. I write standards for epoxies. I don't know the
18 context of your question so I'll try and answer it as
19 best I can.

20 Q. Let me restate it again.

21 Have you personally watched the degradation of epoxy
22 over time exposed to UV radiation?

23 A. Yes.

24 Q. And what were those experiences?

25 A. Again, it widely varies, depending on the amount of

1 direct UV that hits that particular pipeline at any
2 particular instance. Right.

3 So I know in reference to studies perhaps done in
4 the Middle East where there's a huge amount of thinning,
5 there's been areas in the Middle East where they have
6 allowed pipelines to be exposed for 10 years with no
7 degradation of the coating system that was considered
8 significant.

9 In other areas, depending on again it's a
10 functionality of the amount of UVs and humidity. And so
11 where humidity is higher up and those kind of issues and
12 direct rays exist, it could be faster than that. So it
13 varies across to where that pipe is stored and how it's
14 stored and where it goes. Right.

15 Q. Uh-huh.

16 MR. BLACKBURN: No further questions.

17 MR. SMITH: I think we're going to take our noon
18 break at the moment and proceed after lunch. Chairman
19 Nelson has --

20 CHAIRMAN NELSON: Just very, very briefly. You
21 know, listening to everybody this morning, it's obvious
22 there's probably nobody in the room that isn't feeling
23 frustration, myself included. And there's been things
24 that I think we all probably wished we wouldn't have
25 said.

1 So I just want to say to Mr. Capossela, your
2 admonition earlier for us today to kind of keep a lid on
3 it, thank you. Very much appreciated.

4 (A lunch recess is taken)

5 MR. SMITH: We'll call the hearing back to order
6 in Docket HP14-001. We're on cross-examination of
7 witness Schramm -- Staff Witness Schramm, I should say.

8 Mr. Ellison, is it you for Dakota Rural?

9 MR. ELLISON: It is me, sir.

10 MR. SMITH: Thank you. Please proceed.

11 CROSS-EXAMINATION

12 BY MR. ELLISON:

13 Q. Sir, explain to us a little about the contract that
14 you have with the PUC. How did you get that contract?
15 Do you know?

16 A. I wasn't part of the proposal or submittal or
17 anything related to the contract terms. Under whatever
18 the terms are, we're providing guidance and support
19 related to technical issues, myself being strictly
20 corrosion, cathodic protection, support to the PUC based
21 on their needs for information.

22 Q. I noticed when I looked at some of the prior dockets
23 that involved TransCanada that you also provided similar
24 services in 2007 and 2009; is that correct?

25 A. Pretty much the same context, yes.

1 Q. Is it an ongoing contract, or is it a piecemeal by
2 hearings, for example?

3 A. It's not an ongoing contract. It has term limits.

4 Q. Could you tell us, sir -- I imagine you're on salary
5 so whatever your company gets doesn't go right into your
6 pocket.

7 Am I correct in that?

8 A. That's correct. I work for a company organization.

9 Q. Can you tell us, sir, what the compensation of your
10 company is for this particular work that you did on this
11 docket?

12 MS. EDWARDS: I'm going to object on relevance
13 and beyond the scope.

14 MR. ELLISON: It has nothing to do with scope,
15 counsel. It has to do with bias and interest.

16 MR. SMITH: I'll overrule.

17 Q. Sir.

18 A. There is an hourly rate charged for me based on the
19 number of hours. Other than that, I know nothing about
20 the contract.

21 Q. What is your hourly rate, sir?

22 A. I don't even know what it is on this particular
23 contract honestly. I just fill out a time sheet, and the
24 systems keep track of my hours and dollars.

25 Q. Could you tell -- I noticed that when you began your

1 testimony on direct Ms. Edwards was asking you questions
2 that you mentioned you do not personally work for
3 TransCanada.

4 Do you remember your testimony?

5 A. Yes.

6 Q. Your company, however, has had a longstanding
7 contract with TransCanada, have they not?

8 A. I understand we have done work for TransCanada.

9 Q. In fact, on your web page you list TransCanada as
10 one of -- when I say "you," your company lists as one of
11 your clients; isn't that correct?

12 A. We list all clients, whether they could be active or
13 not active, yes.

14 Q. Okay. Do you know whether -- well, are you telling
15 us you don't know how long TransCanada has -- or sorry.
16 Your company has had contracts with TransCanada?

17 A. No. Those contract terms are for other business
18 units. I work out of the integrity business unit, and we
19 have not done that.

20 Q. Okay. Well, as you can see, we're showing you your
21 web page for your company, and TransCanada is listed as
22 one of your clients; right?

23 A. For EN Engineering, correct.

24 Q. I didn't mean you personally.

25 A. Correct.

1 Q. Did you notify the Public Utilities Commission that
2 your company also had TransCanada as a client?

3 A. Yes.

4 Q. And they didn't see any conflict of issues?

5 A. Not that I'm aware of.

6 Q. Okay. You work in the integrity department; you
7 don't work in the ethics department of your company?

8 A. I work in the integrity department, yes.

9 Q. Okay. And that's structural thing type integrity,
10 not the integrity of the company.

11 A. Oh, yeah. Integrity of facilities, regardless of
12 what they are, yes.

13 Q. Yeah. I just wanted to clarify that.

14 Did anyone discuss with you the potential for a
15 conflict in this --

16 A. Not me personally, no.

17 Q. Okay. Do you know who they did talk with?

18 A. I'm not sure.

19 Q. Now when I look over your testimony, sir -- do you
20 have your testimony with you, sir?

21 A. Yes.

22 Q. Okay. I just want to ask you some questions from
23 your testimony. It's not a trick question of whether
24 it's in your testimony or not.

25 I notice on page 2, sir, that one of the things that

1 you currently are responsible for is technical support of
2 corrosion control and integrity field service offerings,
3 including technical oversight of project performance and
4 standards.

5 Did I accurately state what's in your testimony?

6 A. Within those -- within EN Engineering, correct.

7 Q. Sure. Well, I would only expect that your work
8 would be -- do you work for anybody else?

9 A. No.

10 Q. Okay. So any question that I direct at you in terms
11 of work, please assume that it is with EN Engineering.

12 Has the PUC contacted you to be present during
13 construction to ensure that the areas within your
14 expertise, that -- in other words, have you been asked to
15 provide oversight for the construction of this project?

16 A. No.

17 Q. And you don't intend to, do you?

18 A. No.

19 MS. EDWARDS: Can I just have Mr. Ellison
20 clarify when you mean "Commission" do you mean Commission
21 or Commission Staff? Two separate entities, essentially.

22 MR. ELLISON: The Public Utilities Commission,
23 whether it's Staff or --

24 Q. The Commission itself didn't hire you. You were
25 hired by Staff; is that right?

1 A. Correct.

2 Q. Okay. But neither the Public Utilities Commission
3 nor the Staff have asked you to and you do not expect to
4 be hired by the PUC Staff, Commission, et cetera to do
5 oversight?

6 A. No. As a specific project there's no expectation.

7 Q. There is a possibility, is there not, though, that
8 you may be further contacted by TransCanada in connection
9 with this project?

10 A. I would have no idea.

11 Q. You would agree with me that that is a potential
12 interest of your company, to continue that client service
13 relationship for financial reasons?

14 I mean, that's why you have clients; right? You
15 guys hope to make money?

16 A. Business development objectives, yes.

17 Q. On page 3 of your testimony, sir, I believe
18 Ms. Red Bird [sic] asked you some questions about the
19 purpose of your testimony, and I believe that you talked
20 about the first objective; is that correct?

21 Do you remember that testimony and question and
22 answers?

23 A. Yes.

24 Q. All right. The second one that you list is to
25 ensure that the Applicant has met any new requirements

1 imposed by the Federal Pipeline Safety Regulations
2 49 CFR 195; correct?

3 A. Correct.

4 Q. Could you tell the Commission, please -- and this
5 time I'm referring to the Commission, not the Staff. You
6 can tell the Staff too -- what TransCanada documents have
7 you reviewed to carry out the second purpose -- second
8 objective of Staff with your testimony?

9 A. Of TransCanada?

10 Q. Yes, sir.

11 A. So the Appendix Z that is referenced in the
12 documents I read through.

13 Q. Okay. What's Appendix Z?

14 A. Listed as compiled mitigation measures.

15 Q. Okay. And I would imagine that in order to really
16 look at that -- I mean, one of the things you mentioned
17 further down the page is what almost seems word for word
18 from the existing Findings of Fact and the proposed
19 Findings of Fact, "TransCanada's experienced no evidence
20 of corrosion on fusion bonded epoxy lines except for one
21 instance" et cetera.

22 When you prepared this testimony did you literally
23 go to their sheet and copy the --

24 A. Well, in essence. Because I was asked to evaluate
25 the changes which were in the tracked changes. Because

1 the other items had not been changed or indicated to be
2 changed. And so those are all still in effect.

3 So I was there to evaluate that change because it
4 was specifically related to corrosion control.

5 Q. And in your effort to evaluate that change did I
6 understand correctly that the one instance that's an
7 exception you really didn't examine the details of?

8 A. My role is to evaluate the information provided on
9 the intent to meet code elements within documents
10 provided and do those elements within there comply --
11 indicate compliance with both code and PHMSA regulations
12 or the adopted PHMSA regulations that they've voluntarily
13 accepted.

14 Q. Were you aware, sir, that that corrosion
15 incident resulted in a thinning of the walls to virtually
16 97 percent gone?

17 A. Only through testimony here.

18 Q. And as a corrosion expert, I would imagine -- I
19 mean, as a -- if that pipeline was near me as a human
20 being, I'd be worried about that.

21 Is that something as a corrosion expert you had some
22 concern about?

23 A. Well, my role in testimony and looking at these
24 documents was to look against the procedures of what they
25 would do under code in the event that they discovered

1 stray current interference and based on required code
2 elements how would those elements react and did they seem
3 to indicate the ability to be able to follow code in the
4 event of stray currents.

5 Q. Okay. Well, under PHMSA isn't it required that if
6 there's an 80 percent loss, there must be immediate
7 action taken?

8 A. That's correct.

9 Q. Okay. And didn't it concern you that not only was
10 no action taken immediately once there was an 80 percent
11 loss, but apparently this wasn't even discovered until it
12 was 97 percent lost?

13 A. I have no details specific to the event.

14 Q. Well, okay. But I'm asking you as an expert in this
15 field, detection issues -- putting aside the corrosion
16 issues, the source of the corrosion issues, serious
17 detection issues, is there not?

18 A. Again, I don't have any relevancy in time frames. I
19 don't know what immediate means.

20 Q. Well, I thought you were an expert on the PHMSA
21 regulations.

22 A. Well, I am. But in the terms of how immediate
23 related to the activity performed on that particular
24 case, I do not know.

25 Q. So if PHMSA requires immediate action if it's

1 80 percent loss as an expert on PHMSA regulations, you
2 don't know what immediate means?

3 A. No. In that particular case, the way you're
4 defining it, immediate action could be -- a number of
5 actions would be a reduction in pressure, a stop of flow,
6 some process that would lead to a direct assessment of
7 that issue on the pipeline.

8 Q. But apparently nothing was done until it was
9 97 percent gone?

10 A. I don't know the answer to that because I haven't
11 seen the document.

12 Q. Did you even ask for the document?

13 A. I only discovered it through testimony here.

14 Q. So, in other words, you would be willing to put this
15 into your -- you framed the questions, and your question
16 was, that you framed, Keystone updated project
17 specifications as they relate to Findings 68 in the
18 Amended Final Decision and Order to indicate that
19 TransCanada has experienced no evidence of corrosion,
20 et cetera, except for one instance where an adjacent
21 foreign utility interfered.

22 And you're saying that though you fashioned the
23 question, you did not think it was important to go
24 gather -- even to know what that was until you came to
25 this building yesterday, the day before?

1 A. No. It was the information that was contained in
2 the documents and how it was applied that they would
3 follow the rules or committing to follow the rules under
4 195 and that there was no suggestion within those
5 documents that they had made a change that would not
6 require those rules.

7 Q. Wouldn't it be of concern in terms of the ability to
8 follow PHMSA rules that nothing immediately from anything
9 that you have seen or heard, including from your
10 company's client TransCanada, of any action taken until
11 it was 97 percent wall loss?

12 MS. EDWARDS: I'm going to object to the
13 characterization of TransCanada as his client. That
14 assumes facts not in evidence. We don't know if it's a
15 continuing client or not.

16 MR. SMITH: Sustained.

17 MR. ELLISON: Just on their web page. And I
18 believe the witness has admitted that TransCanada is a
19 client of the engineering company that he works for.

20 Q. Again, I'm approaching this from a lay perspective
21 so if I don't say something right to frame the question
22 that makes sense to you, sir, please tell me.

23 When you were explaining about -- and I appreciate
24 the explanations, about how the -- was it the way the
25 metal pipe is put together is what creates that

1 current?

2 A. It's in basically the metallurgy of the steel, the
3 grain boundaries, yeah.

4 Q. Is that something that really happens to all steel
5 pipe?

6 A. As a steel as a whole -- in fact, all metals have
7 the same ability to corrode. They just corrode at
8 different rates.

9 Q. Are you aware from both 2009 your work for the
10 Public Utilities Commission Staff and your work on this
11 particular docket that the plan or the design plan for
12 the KXL Pipeline crosses a metal pipe of the Mni Wiconi
13 project?

14 A. I'm aware through testimony.

15 Q. Okay. Now does that conductivity -- that happens
16 whether you've got water, crude oil, orange juice. No
17 matter what it is that's going through, the metal itself
18 creates that current?

19 A. True. There would be a corrosion rate on the steel
20 pipeline of the water system as well as the pipeline.

21 Q. Do you know whether the water system, the Mni Wiconi
22 system, has in any way covered -- you know, some kind of
23 a seal on the outside that might hold in some of that
24 current or prevent current from another company's
25 pipeline from interfering with that pipeline?

1 A. No.

2 Q. Are you aware of whether -- or are you aware of any
3 plans of the Mni Wiconi project to install or whether
4 they have installed any kind of cathodic protection on
5 their line?

6 A. No.

7 Q. Are you aware of whether TransCanada has any -- have
8 you seen any TransCanada design documents that indicate
9 the plan to provide special cathodic protection during
10 that crossover of that pipe?

11 A. No.

12 Q. On the question of power lines, at one point
13 apparently you have reviewed a map, and I think you said
14 that about 35 miles of line there was a certain parallel
15 of power lines. And I think you said today you couldn't
16 recall whether -- how much was --

17 A. I have notes from 2009 that gave me a rough overview
18 of the design capabilities, and for some reason I didn't
19 know what state it was in so I don't know.

20 Q. And, again, excuse my ignorance on the subject, but
21 do you know whether that was an AC or a DC line?

22 A. I believe it was AC.

23 Q. And I think Mr. Smith posed an excellent question or
24 raised an excellent question about -- I think it was a
25 rhetorical question, but that we don't know what power

1 lines might come up in the future. Is that right?

2 A. I wouldn't know that.

3 Q. Okay. Do you understand that TransCanada plans to
4 install cathodic protection throughout its entire KXL
5 Pipeline?

6 A. Yes.

7 Q. Okay. And does that have to be tuned in any way to
8 deal with whether an AC line or a DC line is close enough
9 to potentially cause interference?

10 A. Run that by me again.

11 Q. Okay. Is the cathodic protection that would
12 optimally be placed in a crude oil pipeline, are there
13 any differences between the protection that would need to
14 be in place if it was an AC power line versus a DC power
15 line?

16 A. They would have to design to meet code requirements
17 under 195 that minimizes the effect of stray currents on
18 others. Others being -- could be power lines, could be
19 any other. Right?

20 Q. Okay. But I guess -- and I guess I'm going to slip
21 back for a moment to metal pipes.

22 A. Uh-huh.

23 Q. If the corrosion as we've heard testimony in the --
24 I'm not allowed to use the term near disaster -- in the
25 97 percent loss of wall by the -- within 100 yards of the

1 Mississippi River, was caused by cathodic interference by
2 another pipeline that was 40 feet away, that's what
3 started formulating my questions about, well, do you have
4 to tweak it?

5 I mean, how do you make adjustments? I mean, how
6 does that happen?

7 A. So stray current interference is not necessarily
8 related to the proximity that the two pipelines are
9 there. It's the proximity of the cathodic protection
10 systems operated by the facilities.

11 So in the case of TransCanada, only as I understand
12 through testimony, no other way through testimony, they
13 were experiencing stray current issue caused by others.

14 Q. But I guess, I mean, the other pipeline, from the
15 testimony, was there before the TransCanada Pipeline.

16 A. Based on -- I'd say that's a correct statement.

17 Q. Okay. So TransCanada would know when it built that
18 pipeline, first of all, that the other pipeline was
19 there; correct? I mean, that's just logical. You have
20 to say yes or no.

21 A. Oh. Yes.

22 Q. Okay. Thank you.

23 And if the current doesn't change, then that would
24 seem to suggest, would it not, that things were not done
25 in a responsible way to address the cathodic current that

1 the other pipeline was already making when the Keystone
2 base pipeline was built there.

3 Does that make sense?

4 A. Yes. They would have a requirement under 195 codes
5 to have a program in place to mitigate stray current
6 interference, and as part of that process they should be
7 able to assess what systems are in the vicinity of that
8 pipeline and address it at the time of design and
9 construction.

10 Q. And in order to get the erosion down to 97 percent
11 of wall thickness, I would imagine then that something
12 wasn't done up to code.

13 Would that be a fair analysis?

14 A. I would have to speculate. I don't know.

15 Q. They didn't do something to deal with an already
16 existing cathodic -- is it waves, electrical waves, or is
17 that what it is?

18 A. Yes.

19 Q. Again, I'm a layperson.

20 A. No. Yes.

21 Q. Okay. You mentioned, sir, that I think from
22 questions from Mr. Blackburn there was some written -- he
23 had a lengthy dialogue that I think I understood like the
24 words like "the" and "and" in about the FBE coating.

25 And do you know what company TransCanada secured its

1 FBE coating from for the pipeline?

2 A. No.

3 Q. That's sitting in North Dakota?

4 A. No.

5 Q. Okay. And if it was -- what was the company that
6 recommended external coating within six months to --

7 A. That happened to be the National Association of
8 Coating -- National Association of Coating Applicators.

9 Q. Okay. I don't know what that means, but I guess
10 what my question is, is there was a company I thought
11 that you had mentioned.

12 A. Scotch is a manufacturing --

13 Q. A manufacturer. Are they one of the major
14 manufacturers?

15 A. They're one of the majors.

16 Q. It just seems to me that there's an interesting
17 coincidence -- maybe not coincidence. An interesting
18 paralleling of the regulations or the proposed
19 regulations of the entity that you mentioned and that
20 company's recommendations.

21 And I was just wondering -- it sounds to me like
22 there's certain symmetry. Would that --

23 MR. WHITE: Objection. That's a
24 mischaracterization of the prior testimony. The
25 testimony was that Scotch recommended 12 to 18 months.

1 Q. Is that what you said, sir?

2 A. Yes.

3 Q. I thought you said six months?

4 A. Not for Scotch.

5 MR. SMITH: Sustained.

6 Q. Who did you say six months for?

7 A. That was the National Association of Coating
8 Applicators.

9 Q. You never mentioned a company in connection with
10 that?

11 A. No. They're two independent companies.

12 Q. No. I understand they're separate. Well, the other
13 company that recommends six months, that's not a
14 manufacturing company. That's more of an oversight or an
15 assistance engineering company, is it not?

16 A. No. I gave you two references. One was the coating
17 applicator. And in the coating applicator's reference to
18 specification, it's basically six months.

19 When you read through the documentation from Scotch
20 that same response that says when should the
21 consideration for protection of coatings above grade, is
22 between 12 and 18 months.

23 Q. Were you asked to evaluate any pipe of TransCanada's
24 in terms of it had been sitting out either outside of a
25 plant or anywhere -- were you given any information about

1 when that pipeline -- pipe was actually put out into the
2 open air?

3 A. No.

4 Q. You mentioned, sir, that one of the things that
5 FBE -- that creates problems for the integrity of FBE is
6 ultraviolet light. And I think as much as I understood
7 it, I think Mr. Blackburn asked you about anything
8 related to that ultraviolet that I could think of.

9 But I wanted to ask you a question about humidity.
10 Okay. Is that -- because you mentioned that that was one
11 of the factors too, is it not, sir?

12 A. It is a secondary factor.

13 Q. A secondary. Okay. Does that mean ultraviolet is
14 the big bad boy in the room, but humidity also can do
15 something bad?

16 A. Correct.

17 Q. Okay. If pipe is stacked four, six rows high, I
18 think you said, did you not -- I think the ultraviolet is
19 protected by the upper layer -- the lower layers are
20 protected by the upper layers; right? The ultraviolet
21 isn't going to penetrate down.

22 But what I'm wondering is, say if you had 4 or 6
23 feet of snow that melts from the top down in through the
24 pipes and if stuff's stacked somewhat tightly as pipe
25 fits in the groves of the other pipe, I would imagine

1 that that would tend to cause for water moisture to
2 linger longer than it would be if it was simply exposed
3 to the sunlight.

4 Would you agree with that, sir?

5 A. Not necessarily.

6 Q. Okay. So you're saying that there would be no
7 humidity difference over melting over weeks and maybe a
8 month or two months with that water just kind of sitting
9 there on the pipes underneath.

10 A. So the coating is designed to be immersed and
11 submerged. That's what it's designed for. So by
12 basically putting it into snow you're basically
13 submerging it. It's designed for that application.

14 It's basically a combination of ultraviolet and
15 humidity, and so it's a combination of the two. It's
16 just not humidity by itself and ultraviolet by itself.

17 Q. Okay. Thank you.

18 I'm a little bit curious, and I -- I'm sorry, but I
19 keep in the back of my mind remembering Chairman Nelson's
20 indication of saying, you know, I'm really curious about
21 this but I just want to ask the leave of the Commission.

22 Your bachelor's degree had a emphasis in forestry;
23 is that right?

24 A. Uh-huh.

25 Q. You kind of went off in a very different direction.

1 A. I did. I came out of college and went to work on
2 the Alaskan Pipeline.

3 Q. So are you saying basically everything that you have
4 learned about cathodic protection has not been by further
5 academic training but by just you working on different
6 pipelines?

7 A. No. In fact, the degree I have has a whole lot of
8 relevancy related to corrosion. The degradation of wood
9 is considered under the definition of corrosion to be a
10 corrosion element.

11 I have microbiological background. I've got a
12 chemical background. I have a management statistics
13 background. And so management of a resource, whether
14 it's a forest resource or a pipeline resource or a
15 corrosion control resource, the management of that
16 resource I've had very relevant training in college to be
17 able to do that, supplemented by very advanced training
18 to be a cathodic protection specialist.

19 Q. How much chemistry did you have when you were in
20 college?

21 A. I believe two years.

22 Q. So what was the most advanced class you took?

23 A. In chemistry, biochem.

24 Q. Okay. So does that mean you had about 15, 20
25 credits?

1 A. No. It would have to be 45 to 50.

2 Q. 45 to 50 credits in chemistry in two years?

3 A. Yeah. Well, I was quarter systems. So depending
4 whether you're talking about semesters or quarters.

5 Q. A degree in chemistry in most American universities
6 is 35 credits, isn't it, sir?

7 A. Yeah. It's a lot of years ago. I had biochem. I'd
8 have to go back to the credits, I guess.

9 Q. I know because I have 29 credits in chemistry and I
10 know how close it was to a degree but that was my
11 question.

12 MR. ELLISON: Thank you for the indulgence of
13 the Commission. I believe that's all the questions that
14 I have of this witness.

15 MR. SMITH: Thank you.

16 Ms. Craven.

17 CROSS-EXAMINATION

18 BY MS. CRAVEN:

19 Q. Kimberly Craven of the Indigenous Environmental
20 Network. I have just a few questions for you.

21 So, Mr. Schramm, I have looked at your resume, and I
22 see that you have been on the board of NACE; is that
23 correct?

24 A. That is correct.

25 Q. Okay. So in that position did you have any

1 colleagues that were employed by TransCanada?

2 A. Yes.

3 Q. And were the colleagues together on the board for --
4 how long were you colleagues on the board together?

5 A. Would have been a three-year term.

6 Q. Three-year term?

7 A. Three-year term.

8 Q. And do you have any friends in your, you know --
9 just friends that are employed by TransCanada?

10 A. I wouldn't call them friends. They're colleagues.

11 Q. Okay. And so I was curious to how your company was
12 informed of the -- this opportunity to provide this
13 testimony on behalf of the PUC Staff.

14 Can you think back how your company in Illinois got
15 this contract in South Dakota and kind of illuminate that
16 for us, please.

17 A. We would have been asked by in this case the client
18 from South Dakota to provide a proposal to provide
19 something to some scope. And that proposal would have
20 been submitted back to South Dakota, and they would
21 accept or reject the contract based on that process.

22 And if that was accepted, then we would pursue work
23 based on how that contract was negotiated.

24 Q. And so that's been an ongoing process since 2007?

25 You keep coming back?

1 A. Each one is a separate process, that's correct.

2 Q. And so, in your personal opinion, are you a
3 supporter of the Keystone XL Pipeline? Do you think it
4 should be built?

5 MS. EDWARDS: I'm going to object as to
6 relevance. His personal opinions don't matter. His
7 professional opinions do.

8 MS. CRAVEN: Well, it goes to bias.

9 MR. SMITH: Sustained.

10 MS. CRAVEN: It goes to bias and whether he's
11 providing -- this is supposed to be objective testimony,
12 isn't it? These are not TransCanada's witnesses.

13 MR. SMITH: Well, it's opinion testimony.

14 Q. So I have just a technical question about when you
15 submitted your testimony. What format was it in?

16 A. How we submitted it upwards?

17 Q. Yeah. Because when we submit our testimony it has
18 to be in a pdf document, and we submitted it online to
19 the PUC.

20 Is that how you did it too, or did you do it a
21 different way?

22 A. I put together the document. They were submitted as
23 a bulk from the company so I don't know.

24 Q. You don't know if it was a pdf or a Word document?

25 A. Don't know if it was pdf or Word. No.

1 MS. CRAVEN: Okay. That's all. Thank you.

2 MR. SMITH: Mr. Gough.

3 CROSS-EXAMINATION

4 BY MR. GOUGH:

5 Q. Thank you. Good afternoon. Bob Gough, InterTribal
6 Council On Utility Policy.

7 In your testimony you indicated that you are not an
8 engineer, although you are working in an engineering
9 firm?

10 A. That is correct.

11 Q. Right. You have administrative responsibilities in
12 your position with this firm?

13 A. Yes.

14 Q. Okay. I've gone through your six pages of resume.
15 I see that you've worked on quite a few projects. Were
16 these mostly engineering projects?

17 A. Not necessarily. They could be field services
18 related to the investigation of cathodic protection,
19 whether related to corrosion. They could have been field
20 failure assessments. They could have been support for
21 water wells and water piping systems. I kind of work in
22 all industries.

23 Q. Could you give us a ballpark percentage of what
24 number of projects similar to this that you have worked
25 on in the past?

1 A. Related to testimony?

2 Q. Related to your administrative position. The past
3 13 years or so at this company.

4 A. 13 years, yes.

5 Q. Right. Has all of that been administrative?

6 A. No. I am also a technical expert to go out in the
7 field and assess stuff directly. So it's not -- I'd say
8 my administrative duties are probably only 25 percent of
9 my total duties.

10 Q. Okay. And over how many years at the company?

11 A. 13.

12 Q. Over 13. When did you start administrative work
13 with the company?

14 A. I've done administrative work since I've been there,
15 yes.

16 Q. From the beginning. So over 13 years you've had an
17 administrative role?

18 A. Correct.

19 Q. How many of the projects over which you had an
20 administrative responsibility might compare to this
21 pipeline? Other pipeline projects, for example?

22 A. Pipelines being defined as being water, gas, liquid,
23 anything pipelines, probably 75 percent.

24 Q. 75 percent. And with regard to your responsibility
25 would you be involved in preparing these for submission

1 to whatever process needed to have that engineering work
2 done for?

3 A. Yes. At times I write proposals directly to a
4 client. Others I'm submitting information that goes in
5 by someone else to a proposal.

6 Q. Do you also submit projects to commissions such as
7 the PUC? Or other permitting bodies?

8 A. I have not done.

9 Q. You've never submitted a project to a permitting
10 body?

11 A. No.

12 Q. Okay. The clients you work for may submit your work
13 to permitting bodies?

14 A. That is up to them. It's their document. Whatever
15 I'm working for them belongs to them when I'm done.

16 Q. Okay.

17 A. So how they choose to do it, I don't know.

18 Q. But you've never had to personally see that that
19 pile of paper was delivered to a permitting body?

20 A. No.

21 Q. Okay. In the pile of paper that you do deliver to
22 your clients, do you include engineering drawings and
23 documents?

24 A. There could be drawings associated with installation
25 drawings, yes.

1 Q. And is it your practice to submit such drawings and
2 documents over the signature of other engineers who have
3 prepared those documents?

4 A. Over? Clarify that, please.

5 Q. When you submit documents to your client that are of
6 an engineering nature, do they have to be signed by the
7 engineer that prepared them?

8 A. Yeah. There's a sequence of signatures on the
9 drawings. The developing engineer who would design the
10 drawings would sign off. There would be one or two
11 reviews that would sign off.

12 Q. And would you submit documents to a client that were
13 not signed?

14 A. Only if they were marked perhaps in a preliminary
15 mode.

16 Q. But is it your professional opinion that if you were
17 to submit completed documentation that was to be used for
18 a permitting process, that such documents, engineering
19 documents, would be signed off through this series that
20 you just explained?

21 MS. EDWARDS: I'm going to object as to
22 relevance. Unless you can establish some sort of
23 relevance, I'm not sure where he's going with this.

24 MR. GOUGH: I'm looking to get his business
25 practice on how engineering documents are submitted to

1 clients and to permitting bodies.

2 MR. SMITH: Is that related to anything --

3 MR. GOUGH: I think so. I've seen engineering
4 documents that haven't been signed submitted here, and
5 I'm just trying to understand what the professional
6 practice is.

7 MR. SMITH: Okay. Give me an example of such a
8 document.

9 MR. GOUGH: This morning's document, for
10 example. And the testimony that we have that no signed
11 documents have yet been delivered to the Commission.

12 MR. SMITH: Okay. I think I'm going to sustain
13 that. Those are not yet required to be delivered.

14 MR. GOUGH: And I'm not asking about those
15 documents being required to deliver. I'm asking him in
16 his professional opinion what the business practice is
17 for consultants that submit to clients who submit to
18 commissions of this sort.

19 COMMISSIONER HANSON: Sustained.

20 CHAIRMAN NELSON: Sustained. Let's move on.

21 MR. SMITH: Sustained.

22 Q. Your testimony was that you have reviewed the
23 documents in the current HP09 docket?

24 A. Yes.

25 Q. And you reviewed documents, any documents, relevant

1 in the HP14 docket?

2 A. I believe so.

3 Q. Did you find engineering documents as part of your
4 review to be completed?

5 A. In context to my review, I was really reviewing the
6 documents for relative items that related to corrosion,
7 corrosion control, and cathodic protection. So that was
8 my primary focus.

9 So other elements I may have skimmed through, but I
10 didn't pay much attention to them if they didn't relate
11 to the subject I was basically reviewing.

12 Q. In the documents that you were reviewing were there
13 engineering documents in that context?

14 A. There were documents providing specifications and
15 information, yes, if you call that an engineering
16 document.

17 Q. And were these documents signed off on by engineers,
18 licensed engineers?

19 MS. EDWARDS: Objection. Asked and answered.

20 MR. GOUGH: It wasn't answered. It was objected
21 to.

22 MS. EDWARDS: And it was sustained.

23 MR. SMITH: Well, he's now talking about
24 documents that he's reviewed. I mean, he didn't answer
25 it very clearly so I'll give you a shot at -- I'll give

1 you a shot at having him answer a little more clearly.

2 MR. GOUGH: Thank you.

3 A. So based on my recollection of the documents, from
4 what I remember -- again my focus was really looking at
5 corrosion control that I seem to remember some documents
6 were signed and some documents were not signed.

7 Q. Thank you.

8 You've stated in previous testimony that your
9 company has TransCanada as a client; correct?

10 A. May have had or could have had or -- I don't know.

11 Q. Or at least lists them as a client?

12 A. Lists them as a prior client or a client, yes.

13 Q. Okay. In your work with clients such as
14 TransCanada, would you expect to report to their project
15 engineers? Is that the chain of command, if you're hired
16 by them, you report?

17 A. Not necessarily. It could be, you know, there's --
18 I work on both sides of the business, between operating
19 and design groups. So it could be a varied number of
20 people I would report to.

21 Q. Thank you.

22 In the coating discussions we had earlier the --
23 were you in the room for the testimony with regard to
24 the -- what potential there might be for scraping of the
25 pipes during installation in the HDD tunnels?

1 A. I'm not sure I was here for that, no.

2 Q. In your opinion, does the installation or the
3 pulling of pipe through those HDD tunnels present a
4 concern with regard to scraping of the outer texture,
5 outer coverings of the pipe?

6 A. There would be a concern. However, what I
7 understand is is that they are providing a coating system
8 that consists of a primary FBE coating over which they
9 are applying an abrasive resistant overlay.

10 The abrasive resistant overlay is designed to work
11 in capability with the HDD. It has different properties
12 that allow the protection of that. It's harder. It's
13 slipperier. It's more abrasion resistance.

14 And, in essence, that's a sacrificial coating during
15 the HDD to prevent any damage that goes into the parent
16 coating underneath it. And so it's designed effective to
17 what industry requirements are for HDD to be installed.

18 Q. And is it your understanding that this coating is
19 not at all affected by the bends and turns the
20 pipeline -- the more flexible pipeline --

21 A. It's designed to work with HDD under some
22 flexibility to allow that to happen based on how that is.
23 So it's part of the process to be able to do that.

24 Q. And are you familiar with the extent of flexibility
25 of the HDD pipe?

1 A. No, I'm not. Mechanically, no.

2 Q. So you couldn't tell us whether this pipe can
3 withstand a variety of stresses on the outside as well as
4 the inside of a curve?

5 A. I couldn't comment on that from -- that.

6 Q. Thank you. You testified too that all metals
7 corrode, just at a different rate.

8 A. That's correct.

9 Q. Right. Is there any greater potential for the
10 apparently mixed metal for more flexible pipeline to
11 corrode more quickly or more slowly? Do we know?

12 A. I just work with steel as an element, not
13 necessarily differences within steel.

14 Q. I see.

15 MR. GOUGH: No further questions. Thank you.

16 MR. SMITH: Okay. Ms. Braun, any questions?

17 MS. BRAUN: Yes, I do.

18 CROSS-EXAMINATION

19 BY MS. BRAUN:

20 Q. Good afternoon, sir.

21 A. Hello.

22 Q. You said in testimony earlier that 4 to 6 feet of
23 snow wouldn't really have any effect on the coating of
24 the pipe, that it was designed to be submerged. What
25 about the fluctuations of temperatures between --

1 realize that unless you were charging electricity into
2 something that it was actually holding that much
3 electricity enough to cause an arcing.

4 Is that a fair statement?

5 A. I wouldn't say arcing. It produces electrical
6 current in the form of DC. No different than a battery
7 that you use in a flashlight.

8 Q. Just from the products that it's made out of?

9 A. It uses copper. Take a copper zinc battery. It
10 uses the differential voltage differences between copper
11 and zinc to create a 1.5 voltage difference which powers
12 your flashlight.

13 Q. In a battery?

14 A. In a battery.

15 Q. Yep.

16 So what is the -- you might have said this, but I'm
17 going to ask it again. What is the amount of voltage
18 that this pipe is creating?

19 A. It could vary. I don't know whether I could give
20 you an exact number.

21 Q. I don't want an exact number.

22 A. I can tell you it's in single voltage values. We're
23 not talking tens or hundreds of voltage. It's very
24 similar to a battery. We're talking about differences of
25 5 volts.

1 Q. So 1 to 5 volts?

2 A. In that range. It can vary.

3 Q. Okay. Within that is your pipe actually creating
4 resistance to that too with that travel?

5 A. There is resistance in the pipe wall.

6 Q. Because of the density of the pipe?

7 A. Correct. There's a resistance in the flow of the
8 electrical current in the pipe wall based on the
9 resistance value of steel.

10 Q. Okay. So you commented on -- is there battery
11 systems along this -- that are helping this cathodic
12 protection? Is that the way I understood that?

13 A. No. The protection system which is cathodic
14 protection makes use of the fact that metals create a
15 voltage.

16 Q. Okay.

17 A. And so I can attach a more active metal to the
18 pipeline, which is an anode. That anode could be made of
19 magnesium or zinc. In most cases that's what's used.

20 And because that is more electronegative, when I
21 couple it to steel it will sacrifice its energy because
22 its higher electrical potential will basically sacrifice
23 itself to protect the lower pipe that's at a lower
24 potential, and it will protect or cathodically protect
25 the pipeline based on simple -- no different than a

1 battery.

2 Q. So these anodes, are they then grounded into the
3 ground below the pipe?

4 A. Well, galvanic anode systems could be placed
5 anywhere. They could be placed in banks. They are in
6 the ground. They could be placed either along the
7 pipeline at test stations, which I heard during testimony
8 that they were doing that.

9 It could be placed anywhere along the pipeline
10 directly if they so wanted to do that. They could be
11 placed in banks. The impressed current anode systems are
12 typically sited at a single location.

13 Q. Now so these anodes, they're -- do they have the
14 acid built to them, like the battery you're talking
15 about?

16 A. No. So if you're trying to liken a battery -- so
17 you have the two metals, which we've talked about, and so
18 you have the gel that's in the battery. Well, the gel in
19 this system is really the earth. That's an electrolyte,
20 which is the fancy term for that.

21 So here the earth and water submersion provides the
22 electrical path for the cathodic protection current to
23 flow.

24 Q. Okay. Let's say this is placed into the earth, the
25 dirt. So is there a corrosion factor around where that

1 anode is put into the soil?

2 A. No. The anode will corrode at a consumption rate
3 that can be calculated. And so based on the amount of
4 energy that's flowing from the anode to protect the
5 pipeline, based on the type of material that is there,
6 there are calculations I could run to give you a design
7 life.

8 The anode is simply consuming itself, corroding
9 itself to protect the pipeline.

10 Q. Does that corrosion that's going on have any effect
11 on plant life?

12 A. Not that I'm aware of.

13 Q. Okay. The zinc ribbon that's used is -- is the zinc
14 used because if it's a really high stray, it breaks
15 faster, or what goes on there?

16 A. The use of zinc ribbon can provide two elements.
17 The first element, because it's zinc, it provides
18 cathodic protection. Right. It also provides a bare
19 element in the ground, such as a ground, just like
20 putting a ground rod in.

21 The zinc is compatible with the pipeline system
22 because it's more negative and, therefore, it's
23 compatible with the system. So it's chosen based on its
24 electrical potential and the fact that it's acting as a
25 ground.

1 Q. Okay. Thank you. Does more anodes mean a safer
2 system?

3 A. Not necessarily.

4 Q. Okay. Depends on their size and what they're
5 designed for?

6 A. And how they're designed, yeah. So --

7 Q. Are they normally designed for what the pipeline
8 company's designing their pipe for years of service, or
9 do you know that?

10 A. It depends. Impressed current anodes are typically
11 a longer design life. So those could -- design lives
12 could range between 25 and 40 years typically. It
13 depends on basically what the design requirements are.

14 The galvanic anodes, the zinc and magnesium we're
15 talking about also can be designed to give you that same
16 range. So it really is, you know, if the design life of
17 the pipe is 50 years, you could design the system to meet
18 50 years, but they are easily replaced in context of
19 trying to replace a pipeline.

20 So when they corrode they can be easily replaced
21 back in the design to be able to do that. So they are
22 replaceable.

23 Q. Okay. So we'll say one's lifespan ends early so
24 they have to -- number one, they have to dig back down to
25 the bottom of the pipe to replace that. Is that true?

1 A. If they were -- if it was a galvanic anode placed at
2 a single point and that anode failed, they would have to
3 dig back an installation to be able to do that. Or they
4 can convert and move to a different type of protection
5 system like an impressed current system or some other
6 thing that may not affect that site but could be done
7 somewhere else.

8 Q. So that impressed current, they would put that in,
9 say, at a pumping station?

10 A. I believe they have indicated that their impressed
11 current systems will be located at stations and,
12 secondarily, at mainline valves.

13 Q. Okay. Thank you.

14 Were you asked to come testify on the bonding and
15 cathodic -- well, let's just go with the bonding because
16 it applies more. On the bonding process to cover
17 TransCanada's mishandling of their pipe yards?

18 A. I have no part of that.

19 Q. Are the cathodic protection systems a part of the
20 SCADA system?

21 A. Not a part of it. They could be -- you could attach
22 something to there to monitor it, but it's not part of
23 the -- SCADA would have to be added to it. It's not part
24 of it, that I know.

25 Q. Are you aware of reports that have come from PHMSA

1 stating that cathodic systems are not necessarily -- I'll
2 read it.

3 This is read out of an article about a draft PHMSA
4 report. The question for me is why have regulators
5 continued to allow pipeline industry to keep selling the
6 public on leak detection systems that don't work as
7 advertised?

8 MS. EDWARDS: Could we ask Mr. Harter to
9 identify the report so I can find it.

10 Thank you.

11 MR. HARTER: This is a New York Times article,
12 2015 written by Dan Frosch. Well, I don't know.

13 The printing says 2015. The beginning of the
14 article says December 21, 2012. So I don't know why the
15 date conflict is there. But I found this when I was
16 researching SCADA systems to see if there was -- one
17 system was better than the other.

18 Q. So did I lose you on my question?

19 A. Well, I -- yeah. I don't deal with leaks so I don't
20 know how to answer your question. I'm here for corrosion
21 control.

22 Q. But the reason -- the reason I brought this question
23 is just because you said that the -- this can't -- your
24 corrosion control can't be added to the SCADA system.
25 Otherwise, I wouldn't have even brought it up.

1 A. So I'll define SCADA a little more broadly in that
2 SCADA is a data and acquisition system. So there are
3 lots of data and acquisition systems.

4 So whether it's the official SCADA system that's
5 being used or some alternate that basically can be
6 attached and is monitoring the operating condition of,
7 say, the rectifier to know that it's operating at here's
8 the volts, here's the amps, so it's running constant
9 things -- there's all sorts of vendors that provide that
10 service to be able to monitor.

11 So my term SCADA is a very large element from that
12 process. So it can monitor the equipment on a real time
13 basis to tell you the equipment is operating.

14 Q. In your opinion, if this was hooked into the SCADA
15 system, would it increase the safety of the pipeline?

16 A. It would ensure your cathodic protection system is
17 running all the time, yes.

18 Q. Okay. Thank you. Are you aware of the report of
19 which -- from PHMSA as a draft report of which this
20 article was basically questioned from?

21 Are you familiar with that report that would have
22 come from PHMSA?

23 A. No, I'm not.

24 Q. All right.

25 MR. HARTER: I guess at this time I would

1 entertain a motion to have that draft report entered into
2 evidence if the Commission would accept it.

3 MS. EDWARDS: Before I entertain making a
4 objection, would that be the draft report that you
5 provided?

6 MR. HARTER: It would be, Kristen.

7 MS. EDWARDS: Okay. I gave it to Katlyn who's
8 not here. Let me try to find it.

9 I'd object to lack of foundation, but I did
10 provide it to Tina so that it's out there if any other
11 party needs to look at it.

12 MR. SMITH: And I don't have it up on my screen
13 at the moment. But -- and I didn't recall this, but
14 we -- we entered a Motion to Preclude related to
15 discovery, and I forgot about that.

16 But I just took a look at the Order with respect
17 to someone else, and I noticed you're in there,
18 Mr. Harter.

19 MR. HARTER: Are you just seeing things?

20 MR. SMITH: I don't know. I could be. And
21 that's -- any thoughts on that, TransCanada or --

22 Oh. Yes, sir.

23 MR. CAPOSSELA: Thank you. Peter Capossela,
24 Standing Rock. Government documents are routinely
25 entered in as evidence. They're generally

1 self-authenticating. They're generally -- there's a high
2 level of --

3 MR. SMITH: No. I agree. For official
4 documents.

5 MR. CAPOSSELA: They are what they are.

6 MR. WHITE: Except to the extent this is a draft
7 report so it doesn't reflect the final views of any
8 agency.

9 MR. CAPOSSELA: And Mr. Harter has not suggested
10 that that's the case, but the objection was a
11 foundational objection. And it's the kind of document
12 where the foundation requirements are fairly lenient.
13 And that's my point.

14 And I think that Mr. Harter's request should be
15 granted for that reason.

16 MR. SMITH: Here's the issue I have. We issued
17 an Order because we were having problems with people
18 basically thumbing their nose at discovery and some of
19 the other processes. And Mr. Harter's on the discovery
20 related preclusion list. And that doesn't mean he can't
21 cross-examine, which we've allowed him to do.

22 MR. GOUGH: I object. Bob Gough. I object to
23 the characterization that those of us who did not follow
24 to the letter the Commission's discovery rules as
25 thumbing their nose at the process.

1 We cited South Dakota rules that allowed for a
2 broader -- we thought at that time a broader opportunity
3 for submitting testimony, and we were caught between that
4 understanding of South Dakota Law and the procedures for
5 this Commission and we've abided by that.

6 MR. BLACKBURN: And Bold supports that. We
7 submitted through our responses to discovery requests of
8 TransCanada. We just disagreed about what the
9 Commission's Order meant. That doesn't mean that we
10 thumbed our noses at it. We had very rational reasons
11 expressed.

12 MS. LONE EAGLE: This is Elizabeth Lone Eagle.
13 And, as you recall, I have to receive everything by mail,
14 which puts me about a week behind. So I was far from
15 thumbing my nose at it.

16 MR. SMITH: I apologize for that
17 characterization. I just couldn't think of a word,
18 frankly.

19 But here's the deal. I was telling you there's
20 an order outstanding from some discovery. Mr. Harter's
21 on the list of people --

22 MR. MARTINEZ: Mr. Smith, Robin Martinez from
23 Dakota Rural Action. I think you probably just cut to
24 the chase and make it very simple. I think the
25 Commission's certainly entitled to take judicial notice

1 of public documents.

2 MR. SMITH: That's a different issue. And I'm
3 not saying the Commission shouldn't allow a document in.
4 I'm just saying that Mr. Harter under the Order is
5 precluded from offering evidence or testimony. Not from
6 cross-examination, though.

7 MR. MARTINEZ: We'll be happy to offer it then
8 on behalf of Dakota Rural Action if that solves the
9 problem.

10 MR. SMITH: That's what I was kind of hinting
11 at. That doesn't mean we've received it.

12 Okay. Mr. Harter.

13 CHAIRMAN NELSON: Deny it and let's go.

14 MR. SMITH: Denied.

15 MR. HARTER: I will just state that I did enter
16 it in through public records, public comment, so that it
17 is in there. And I think because of the statement and
18 who said it, I think it's worth looking at.

19 Thank you.

20 MR. SMITH: Thank you, Mr. Harter.

21 MR. GOUGH: Mr. Smith, Bob Gough InterTribal
22 COUP. I also take exception to Mr. White's objection
23 that it's a draft report and it does not reflect the
24 final positions.

25 We've seen draft documents submitted to this

1 body for a Final Permit. And I would just take exception
2 to that comment.

3 Thank you.

4 MR. SMITH: Noted.

5 Please proceed, Mr. Harter. Oh, are you done?

6 MR. HARTER: No. I've got a couple more.

7 Sorry, Mr. Nelson.

8 Q. Would you not think a responsible contractor with
9 millions of dollars of UV susceptible pipeline would not
10 try and get it covered before it becomes --

11 MS. EDWARDS: I'm going to object to the form of
12 the question as argumentative.

13 MR. HARTER: I'm asking his opinion. Yes or no.

14 MR. SMITH: Sustained. Can you just ask it a
15 different way, please.

16 Q. Do you think TransCanada was responsible in the way
17 they handled their pipe yards in the time frame to
18 protect the coating on the pipeline?

19 A. Yes.

20 Q. I don't know what's up there, but it must be
21 something. You remind me of some of my karate students.

22 Okay. I think you answered this, but I missed the
23 answer.

24 So did you receive the information for your research
25 from Staff or TransCanada?

1 A. From Staff.

2 Q. Okay. When a pipe gets dented does that disturb the
3 epoxy coating on it?

4 A. Could.

5 Q. Thank you. You stated that your company's in
6 Illinois?

7 A. That's correct.

8 Q. And you're from Illinois?

9 A. I am from Illinois.

10 Q. Is there nobody with your expertise in South Dakota?

11 A. I don't know.

12 Q. You don't know that. I was just curious why
13 South Dakota was going out of state so that's why I
14 entered those questions.

15 Do you have any idea what the weight of one pipe is?

16 A. The weight of one pipe?

17 Q. Yeah.

18 A. No.

19 Q. One pipe that they're using in these yards?

20 A. No.

21 Q. Okay. Because there was questions asked about being
22 stacked on each other and affecting the bonding of it,
23 and I believe it was stated that it has no effect on it.

24 I guess my impression is and I would just about bet
25 if we went to the pipe yard, whatever them are stacked on

1 is probably sunk into the ground. So I guess I was
2 surprised that the answer was no for the weight,
3 compression weight, doesn't have any effect on the
4 coating.

5 Is that -- you agree with that, that the weight has
6 no effect on the coating?

7 A. Typically there's -- at the time of determining how
8 to stock the pipeline in that condition the weight of the
9 pipe and how they are going to ensure that the pipes
10 don't come into contact -- if you looked at the pictures,
11 there were ropes around the pipe to keep the spacing of
12 the pipes apart.

13 And so based on those standards and based on that
14 understanding, most companies will typically specify as
15 to how high the stack will be placed in order to prevent
16 the damage that you were talking about.

17 Q. So there is a chance, since they're using ropes
18 probably on the second layer, would that be a fair
19 assumption?

20 A. Not necessarily.

21 Q. So they use ropes against the ground?

22 A. No. But the ground doesn't necessarily cause the
23 damage to the coating.

24 Q. Okay.

25 MR. HARTER: Thank you.

1 MR. SMITH: Thank you, Mr. Harter.

2 Ms. Lone Eagle, questions?

3 MS. LONE EAGLE: Yes. I have some.

4 CROSS-EXAMINATION

5 BY MS. LONE EAGLE:

6 Q. I'd just like to get some clarification on a few
7 things.

8 You're the vice president and senior project
9 manager; is that correct?

10 A. That is correct.

11 Q. Okay. Is your -- the company that you work for, is
12 it a fairly large firm?

13 A. Yeah. We're all over the United States.

14 Q. Okay. So you stated that you were not -- you didn't
15 know, yourself, whether or not TransCanada was a client;
16 is that correct?

17 A. I don't personally know.

18 Q. You don't personally know?

19 A. No. Based on the business group that I work under
20 we have not worked for TransCanada. It's possible that
21 other business units or other offices could have worked.

22 I wouldn't necessarily know that unless I was
23 actively working on those projects as well.

24 Q. Okay. So that was -- that was my next question, are
25 you aware.

1 Well, as a project manager you oversee projects just
2 in the area that you work?

3 A. That's correct.

4 Q. Okay. Like geographic area or specialty area or --

5 A. By discipline.

6 Q. By discipline. So do you oversee the work of
7 somebody that may work in one of these other offices?

8 A. I may provide the guidance. If they're basically
9 working on a project that would need corrosion, cathodic
10 protection background, I would provide that. But they
11 may be working directly for a project manager that's in
12 the other office.

13 Q. Okay. So even though you may be doing that, you
14 wouldn't necessarily come across information as to
15 whether or not TransCanada was the client they were
16 working for?

17 A. And I have never been involved in a project for
18 anyone that has said this is TransCanada, give me
19 information. That, I have not done.

20 Q. Okay. Thank you. Or at least not to the point that
21 you're aware. Correct?

22 A. I believe I have never personally worked on
23 TransCanada projects.

24 Q. Okay. In the process that you used to make your
25 recommendation in this case you were provided guidance by

1 the Staff of the Public Utilities Commission; is that
2 correct?

3 A. Based on the scope of what I was supposed to
4 evaluate, which was related to the assessment of any
5 changes provided in documents against the ability to meet
6 the requirements under 195 or the PHMSA requirements.

7 Q. Okay. And you've already established for us that
8 the only information that was provided to you was from
9 TransCanada; is that correct?

10 A. No. I took those documents off the PUC website,
11 whatever that would be.

12 Q. Okay. But those documents were the documents
13 TransCanada provided to the PUC.

14 A. Well, and there was testimony from Intervenors and
15 everything else that I read as well.

16 Q. Okay. So did you at all during the course of your
17 work for this project take it upon yourself to find other
18 sources to maybe provide a more balanced perspective?

19 It's a yes or no question.

20 A. No.

21 Q. Okay. And were you at all ever given that direction
22 to do so by the PUC Staff? Yes or no?

23 A. What is it or "to do"?

24 Q. It's in reference to the previous question.

25 THE WITNESS: Can you state the previous

1 question.

2 (Reporter reads back the last two questions and answers.)

3 A. With regard to the focus of the document that I was
4 to look at, yes, that was the focus of the contract that
5 I was supposed to be looking at.

6 Q. I guess what I was referring to -- you must have
7 misunderstood the question -- is did they ever give you
8 any direction as far as anything you might do to find a
9 more balanced perspective?

10 A. It's hard to find balance. I'm using my expertise
11 in corrosion across 35 years of experience to provide
12 substantive support related to those tasks to the PUC.

13 So, in essence, my experience in all the values I've
14 ever done provides that balanced approach.

15 Q. Okay. Were you ever told by the PUC Staff that
16 their purpose or their role was as a neutral party? Yes
17 or no?

18 A. No.

19 Q. Thank you.

20 MR. SMITH: Mr. Seamans.

21 MR. SEAMANS: I have no questions.

22 MR. SMITH: Okay. Oh, yeah. Pardon me.

23 Carolyn Smith.

24 MS. SMITH: I have no questions.

25 MR. SMITH: Okay.

1 MR. HARTER: Mr. Smith, John Harter. I struggle
2 with the witness. I think he knows his stuff very well.
3 With the Staff having him as their witness.

4 What I struggle with in listening to this is the
5 fact that he not only prepared his questions, he prepared
6 his answers.

7 In my mind as somebody being highly affected by
8 this project, I don't look at that as being -- it doesn't
9 look neutral to me. And I guess it's -- it sounds
10 objective to me, and I would file an objection to it and
11 move to have his testimony stricken.

12 MS. LONE EAGLE: Elizabeth Lone Eagle. I join
13 that motion for the reasons he stated.

14 MS. BRAUN: This is Joye Braun. I join that
15 motion for the reasons stated.

16 MR. SMITH: Well, I'm going to deny the motion
17 and overrule the objection.

18 I mean, that's why we have cross-examination is
19 so other parties have their opportunity to ask any
20 questions they want. And, again, prefiled testimony is
21 kind of an odd -- it's a little different, you know, than
22 in a civil suit. It's kind of a different order of
23 business. But it's denied.

24 MS. SMITH: Mr. Smith, have I given up my chance
25 to ask a question?

1 MR. SMITH: You have not.

2 MS. SMITH: I just have one question.

3 CROSS-EXAMINATION

4 BY MS. SMITH:

5 Q. Sir, did you see the questions that were presented
6 to you by the PUC before you came on the stand?

7 A. No. Those questions were developed by me.

8 Q. They were developed by you? The ones that --

9 A. I take that -- I'm sorry. I take that back. They
10 were not -- they were provided to me, and I provided the
11 answers back.

12 Q. And they were provided to you by whom, please?

13 A. By Staff.

14 Q. And so the questions that you were provided by the
15 Staff, had you previously answered those to the Staff
16 before today?

17 A. Only in the testimony.

18 Q. So yes.

19 A. Yes.

20 Q. Okay.

21 MS. SMITH: That's all.

22 MR. SMITH: Staff?

23 Oh, Commissioner questions first.

24 CHAIRMAN NELSON: I have just one question. You
25 used the term earlier that I'm not familiar with, and it

1 was the term "grain boundary."

2 Could you educate me on what that is?

3 THE WITNESS: So if you look at steel with an
4 electron microscope, there are grain boundaries. Those
5 are basically related to the elements that make steel.
6 So there's a grain pattern to it. You really can't see
7 it with a visual, naked eye. You have to be able to use
8 an electron microscope.

9 So things like carbon inclusion. Because of the
10 carbon -- they put other elements in there. They set
11 grain boundaries. And it's the differences in those
12 boundaries that creates the -- the differences that
13 create the voltage.

14 MR. SMITH: Commissioner Hanson?

15 COMMISSIONER HANSON: No questions.

16 MR. SMITH: Staff, any redirect?

17 MS. EDWARDS: No redirect.

18 MR. SMITH: Okay. You may step down.

19 Okay. At this point -- and that's the only
20 witness that Staff was offering today too; right?

21 (Pause)

22 MR. SMITH: Mr. Seamans, are you ready to do
23 your testimony? Today? Are you prepared for that today?
24 Can you hear me?

25 MR. SEAMANS: Are you asking me?

1 MR. SMITH: Yes. And --

2 MR. SEAMANS: I have not developed my testimony
3 or I won't have any testimony because one of the
4 things -- my testimony was going to be based on the need
5 for the pipeline. And it sounds like that's off the
6 table anymore. So I will not be providing testimony.

7 CHAIRMAN NELSON: Okay.

8 MR. SMITH: Okay.

9 MR. MARTINEZ: Mr. Smith, I was just looking at
10 Mr. Seamans' prefiled testimony. I think it really
11 should be made part of the record because he covers
12 several areas beyond the need of the pipeline, including
13 eminent domain, the sort of oversized promises that
14 TransCanada made with regard to property tax revenues,
15 the threats to drinking water, and the emergency response
16 plans, and high consequence areas in addition.

17 MR. SMITH: Well, yeah. I don't know.

18 Mr. Seamans, are you just feeling not prepared?
19 Because, I mean, at a minimum if you wanted to, you could
20 just do a brief summary of your prefiled and -- sure.
21 And you'll be cross-examined to -- subject to
22 cross-examination. If you want to. You don't have to.

23 MR. SEAMANS: I'm not really prepared because
24 I've -- I just didn't -- I kind of dropped it after it
25 was decided that -- my main testimony would have been

1 based on the need for the pipeline.

2 MR. SMITH: Okay. And you do cover some other
3 subjects in there, but it's up to you.

4 MR. SEAMANS: No. They were not my main
5 subjects, and I do not.

6 MS. CRAVEN: Can he go another time, though, if
7 he doesn't want to go right now and get prepared?

8 MR. SMITH: Is that the issue? You're feeling
9 unprepared because we got to you this fast? Or is it
10 just that you've decided --

11 MR. SEAMANS: Well, like I say, my main
12 testimony was going to be on need for the pipeline, and I
13 guess I didn't pursue any of these other matters too
14 much. So I am under-prepared, yes.

15 MR. SMITH: Do you want to have the opportunity
16 at a later -- this could go on for a couple more days, at
17 least.

18 MR. SEAMANS: If we could keep that open, why, I
19 would appreciate that.

20 MR. SMITH: We will not rule you out.

21 MR. SEAMANS: Thank you.

22 MR. SMITH: I'm not saying it will be admitted,
23 but you'll at least have a chance to offer it and make a
24 case for why it should be admitted.

25 MR. SEAMANS: Thank you. I appreciate that.

1 MR. SMITH: That would turn us to there are no
2 other of the Individual Intervenors here today who are
3 eligible to offer evidence and testimony. So I guess we
4 would be ready to turn to -- pardon me.

5 MS. LONE EAGLE: Excuse me. This is Elizabeth
6 Lone Eagle, and I have a question. Would it be
7 appropriate at this time for me to make an on-the-record
8 objection to my being precluded from offering any
9 testimony regarding myself or the case that I had been
10 preparing because the only reason I missed any of the
11 deadlines, which is the only reason I was precluded, was
12 due to the limitations I had by being able to only use
13 the U.S. Postal Service as opposed to a number of the
14 online things that made it difficult for me?

15 I realize you're going to overrule this, but I
16 want the objection on the record.

17 MR. SMITH: I wouldn't necessarily presume that.
18 Do you want to come up here, or do you want to do it from
19 back there? It's up to you.

20 MS. LONE EAGLE: Yesterday I was told absolutely
21 not. So, of course, today I'm not prepared. But I could
22 be prepared by Monday or Tuesday.

23 MR. SMITH: No. I meant come up here to make
24 your argument to the Commission. Oh, is that it?

25 MS. LONE EAGLE: Yeah. That was it. They told

1 me yesterday in no uncertain terms I would not be allowed
2 to testify. I have an objection to that that I want on
3 the record and I made.

4 MR. SMITH: Oh, that was it. I thought you had
5 more to say. Thank you.

6 At that point we will be going to -- if there
7 are no other individuals here today.

8 So we would turn to other persons. And are we
9 going to go in the same order we did with cross? Okay.

10 MR. CLARK: Cheyenne River is ready, sir.

11 MR. SMITH: Do you want to take a short break
12 now, or do you want to go --

13 MR. CLARK: Totally up to you. I have no idea
14 how long cross will be. I've been very bad at predicting
15 that.

16 MR. SMITH: We'll go for maybe just Cheyenne
17 River, and then maybe take a break.

18 Does that suit everybody?

19 Okay. Please proceed, Mr. Clark.

20 MR. CLARK: Thank you, sir. Cheyenne River
21 calls Mr. Steve Vance.

22 (The oath is administered by the court reporter.)

23 DIRECT EXAMINATION

24 BY MR. CLARK:

25 Q. All right, Steve. Could you please state your name

1 for the record, sir.

2 A. My name is Steven Vance.

3 Q. And what is your business address, sir?

4 A. My business address is Post Office Box 590,
5 Eagle Butte, South Dakota 57625.

6 Q. Very good. And who is your employer?

7 A. Cheyenne River Sioux Tribe.

8 Q. And what is your position with the Tribe?

9 A. I am the Tribal Historic Preservation Officer.

10 Q. And how long have you been in that position?

11 A. My sixth year.

12 Q. And could you give us just a brief description of
13 your position, what it entails?

14 A. Originally historic preservation was assigned to
15 different states -- State Historic Preservation Officers.
16 Cheyenne River was early on in assuming those from the
17 state.

18 So my position as a Tribal Historic Preservation
19 Officer entails the same as what State Historic
20 Preservation Officers do for the State of South Dakota.

21 Q. Very good. And generally familiar with the proposed
22 route of the Keystone XL Pipeline?

23 A. Yes, I am.

24 Q. And did you prepare prefiled testimony before your
25 appearance here today?

1 A. Yes.

2 Q. And have you reviewed that testimony before swearing
3 your oath?

4 A. Yes.

5 Q. And are there any changes in fact or circumstances
6 that would change the prefiled testimony that you
7 prepared?

8 A. No.

9 MR. CLARK: Cheyenne River Sioux Tribe would
10 move to admit Exhibit No. 7002.

11 MR. SMITH: Is there objection from anyone?
12 Seeing none, it's admitted.

13 MR. CLARK: Thank you.

14 Q. Could you just give us a really brief summary of
15 your prefiled testimony, sir?

16 A. Background record for, I guess, some of the duties
17 here is I worked for the Tribe as a police officer for
18 16 years. And then from there I went into -- in '95
19 teaching Lakota language, cultural history, and
20 government for nine years -- or actually seven years. It
21 was a two-year break there back into law enforcement.

22 Basic history of what I've -- you know, dealing with
23 different laws on the reservation, you've got to deal
24 with tribal law, federal law, state law, county law. And
25 the same with preservation issues. A lot of federal law

1 involved as to compliance measures, but yet again tribal
2 interests in what all of these projects entail.

3 Q. Very good.

4 MR. CLARK: Cheyenne River submits the witness
5 to cross-examination.

6 MR. SMITH: Thank you.

7 TransCanada?

8 MR. TAYLOR: No questions.

9 MR. SMITH: Mr. Rappold, any questions?

10 MR. RAPPOLD: I think I should probably have a
11 few.

12 MR. SMITH: Okay.

13 CROSS-EXAMINATION

14 BY MR. RAPPOLD:

15 Q. Matt Rappold. Good afternoon, Mr. Vance. I
16 represent the Rosebud Sioux Tribe.

17 Are you able to explain based on your -- well,
18 anything that's relevant to you how the different Tribes
19 in South Dakota share common interests in the same
20 subject matter that your testimony talks about?

21 MR. TAYLOR: I'm going to object to the form of
22 the question, A. And, B, we made a motion no friendly
23 cross. And it's quite evident who the friends are among
24 the Intervenor group. So to the extent that friendly
25 cross is propounded by the Yankton Sioux Tribe, we'd

1 object to that.

2 MR. RAPPOLD: I represent the Rosebud Sioux
3 Tribe.

4 MR. TAYLOR: Forgive me.

5 MR. RAPPOLD: No problem. And could you refresh
6 my memory, Mr. Smith. I thought that motion was denied.

7 MR. SMITH: It was. What the Commission ended
8 up ordering was it did -- the one part it did uphold or
9 put in the Order was no repetitive cross. But we did
10 not -- the Commission did not approve or grant the motion
11 for -- to preclude friendly cross.

12 MR. RAPPOLD: That's what I thought.

13 Thank you.

14 Q. So are you able to explain to the Commission and to
15 TransCanada how Tribes may share common interests in
16 tribal historic preservation and the things that you talk
17 about in your testimony?

18 MR. TAYLOR: Objection. Clearly beyond the
19 scope of his direct examination.

20 MR. CLARK: The question -- I'm sorry,
21 Mr. Smith. Travis Clark for Cheyenne River Sioux Tribe.

22 The question only asked in relation to the
23 subject matter he talks about in his direct examination.
24 It's necessarily within the scope of his testimony.

25 MR. SMITH: Okay. Overruled. If he can answer.

1 A. The area of concern for Cheyenne River Sioux Tribe
2 also rolls over into other Tribes. We've been -- as
3 people have -- in this country who have went to school
4 and learned history, Tribes are separated from one
5 original, as you would say, nation into separate
6 reservations. That does not separate what we deal with
7 when we're talking about cultural and historical
8 property.

9 So if I was to address a concern in the Black Hills
10 on a project, I would also look for the direction from
11 the Northern Cheyenne, the Arapaho, the Yankton, the
12 Rosebud, the Standing Rock because they are all the same.
13 That's the association.

14 So when I address things under the direction that I
15 get from Cheyenne River Sioux Tribe I cannot leave out
16 the other bands who have association to those sites. The
17 sites are way before America was established.

18 So that's the association that I have when I go to
19 these -- to understand that what I'm addressing is not
20 just Cheyenne River's concerns. The history goes
21 thousands of years back.

22 Q. Are you able to share anymore detailed information
23 about the Slim Buttes site?

24 A. Originally that was my first statement in a
25 teleconference was my question. I says, well, what about

1 Slim Buttes?

2 Slim Buttes is one of thousands of concerns through
3 this corridor because -- and that happened to be just the
4 one I threw out there during that teleconference. But
5 these were sites of history, pages of history.

6 Slim Buttes is being -- Slim Buttes is also known as
7 South Cave Hills, North Cave Hills. Right within that
8 vicinity as to what happened, there's history amongst the
9 Lakota of origin from there for animals. There were
10 still remnants of evidence there that show this.

11 So I guess it entails many other things besides --
12 that was just kind of like one thing that popped up along
13 this -- when we first started discussing this project.
14 But it is a cultural historical site for Tribes.

15 There was also battle sites, and all of these things
16 kind of happened along the way.

17 Q. Thank you.

18 Do you know if the State Historic Preservation
19 Office is in the process of proposing a nomination of the
20 Slim Buttes Battle site to the National Historic Register
21 of Historic Places?

22 A. I know it had been discussed that it should be.
23 It's a real lengthy process. But I don't think it has
24 been. There are historical markers there for the battle.
25 But, like again, that's one side's story. It's not the

1 Lakota side's story.

2 Q. Thank you.

3 MR. RAPPOLD: I have no further questions for
4 the witness.

5 I would just like to point out to the
6 Commission -- and I'm not exactly sure the most
7 appropriate way to go about pointing this out. It's
8 certainly not an objection.

9 But I wanted to draw the attention to the
10 Commission that while Rosebud Sioux Tribe's Tribal
11 Historic Preservation Office testimony was excluded upon
12 the motion of TransCanada with the support of PUC Staff,
13 subject matter being basically the same as Cheyenne
14 River's testimony, which was just admitted, I want to
15 point out that to the Commission so that the Commission
16 is aware of that.

17 Thank you. For the record.

18 MR. SMITH: Thank you. Are there other
19 questions?

20 Mr. Capossela.

21 CROSS-EXAMINATION

22 BY MR. CAPOSSELA:

23 Q. Briefly, Mr. Vance, would you please explain to the
24 Public Utilities Commission the significance of water in
25 the Lakota culture?

1 MR. TAYLOR: I'd interpose and renew my
2 objection. This is beyond the scope of direct
3 examination.

4 MR. SMITH: Overruled.

5 A. As for Cheyenne River Sioux Tribe, I can state that
6 it is written in our cultural resource management as
7 water as a sacred object. And I know cultural all other
8 Tribes share that same comment as to what water means to
9 all life, planet, animal, human, insect.
10 So water is a cultural resource.

11 MR. CAPOSSELA: Thank you. No further
12 questions.

13 MR. SMITH: Any other Intervenor questions?

14 MS. REAL BIRD: Good afternoon, Mr. Vance.
15 Thomasina Real Bird for the Yankton Sioux Tribe.

16 Thank you for your testimony. We will not have
17 cross-examination.

18 MR. SMITH: Mr. Martinez?

19 MR. MARTINEZ: Nothing from DRA.

20 MR. BLACKBURN: Nothing from Bold.

21 MR. SMITH: Mr. Gough?

22 MR. GOUGH: No, sir.

23 MR. SMITH: Ms. Craven?

24 MS. CRAVEN: No. IEN doesn't have any
25 questions, but thank you, Mr. Vance, for coming and

1 giving up your Saturday to be here with us today.

2 MR. SMITH: Staff?

3 MS. EDWARDS: Staff has no questions. Thank
4 you.

5 MS. LONE EAGLE: Excuse me. I think you skipped
6 over the Individual Intervenors.

7 MR. SMITH: Oh, pardon me. I did. I guess let
8 me see -- Ms. Braun, do you have any questions?

9 MS. BRAUN: No, I don't. Thank you.

10 MR. SMITH: Mr. Harter.

11 MR. HARTER: I've got 100.

12 MR. SMITH: You do?

13 MR. HARTER: No.

14 MR. SMITH: Ms. Lone Eagle.

15 MS. LONE EAGLE: Yeah. I'm not sure if this is
16 going to be beyond the scope or not.

17 CROSS-EXAMINATION

18 BY MS. LONE EAGLE:

19 Q. In the course of your work, Mr. Vance, do you --
20 first of all -- well, skip that part.

21 But you physically have to go out and look at some
22 of these sites that are in question; is that correct?

23 A. The position we have, same with state historic,
24 tribal historic preservation is guidance through federal
25 law 800 CFR regulations or 36 CFR.

1 But it involves a process called a Section 106
2 process. And the simplest way I can put that is in four
3 steps. The initiation of consultation to communicate
4 with Tribes or parties of interest to these. And that's
5 public scoping, all of that kind of.

6 And the second part is identification.
7 Identification of what the project could affect. And
8 then the assessment of that identification. And then the
9 determination of eligibility of whether or not it's
10 eligible for historical nomination.

11 So the second step of identification puts me what we
12 say boots in the field, boots on the ground. We have to
13 actually go out there and survey and identify historical
14 and cultural properties.

15 Q. To your knowledge, has the Tribe been contacted by
16 any of the other parties associated with this project in
17 reference to your area of expertise? To the best of your
18 knowledge?

19 A. Tribes contacted me? Is that the question?

20 Q. No. Any of the parties that are associated with
21 this project, TransCanada, any of their contractors. Are
22 you aware as to whether or not any of that consultation
23 has taken place?

24 A. I have commented on several times through this
25 process of the four steps as to whether or not it was

1 done with good-faith effort.

2 That's the other -- that's actually written in the
3 regulations of -- that it be -- you know, consultation be
4 conducted in a good-faith effort.

5 And we responded back to that stating that that
6 wasn't sufficient because it was majority of, what do you
7 say, e-mails, communication. You know, I'm the lower
8 level. I'm designated by tribal government to assume the
9 duties in the 106 process. But the regulation also comes
10 down to government to government, and that is Department
11 of State which is the federal entity mandated to follow
12 106 is to meet with the Tribal Chairman who is
13 Mr. Harold Frazier at this time.

14 So, like I said, that's kind of where it went right
15 there. We haven't seen that develop. So early on there
16 was, what do you say, exchanging of e-mails,
17 teleconferences, but very minimal.

18 MS. LONE EAGLE: Okay. Thank you. No more
19 questions.

20 MR. SMITH: Mr. Seamans.

21 MR. SEAMANS: No questions.

22 MR. SMITH: Ms. Smith.

23 MS. SMITH: No questions.

24 MR. GOUGH: If Smith, if I may just following up
25 on the questions that were asked?

1 MR. SMITH: Yeah.

2 MR. GOUGH: Thank you.

3 CROSS-EXAMINATION

4 BY MR. GOUGH:

5 Q. Mr. Vance, thank you again for coming here,
6 especially on a Saturday.

7 Given your rather unique constellation of experience
8 both within Tribal Historic Preservation and law
9 enforcement, are there procedures set out for dealing
10 with violations of sacred sites or vandalism of cultural
11 properties and the like on your reservation?

12 A. We have an ordinance, tribal ordinance, that is
13 Ordinance 57, the Cultural Resource Protection Act. I
14 think the maximum punishment, you know, in penalties in
15 that is set at \$500 million right now.

16 So it is part of what they call Archaeological
17 Resource Protection Act, the federal law in trafficking
18 and looting of artifacts. They also have stringent
19 penalties for disturbance and destruction, looting,
20 trafficking of cultural resources or sacred objects or
21 historic properties.

22 Q. In your capacity as Tribal Historic Preservation
23 Officer, have you been approached by TransCanada for
24 documentation of how you handle these things?

25 A. No.

1 Q. Thank you.

2 As given your law enforcement experience, have you
3 had to deal with -- or how does -- how does your Tribe
4 deal with trespassers?

5 A. Presently -- well, just recently, again, Cheyenne
6 River Sioux Tribe passed a ordinance against trafficking,
7 looting -- or trafficking, distributing, and distributing
8 methamphetamine or crack or drugs, and that is
9 disenrollment.

10 So the Tribe has now changed in a lot of things. Of
11 course, we know that, again, it's -- tobacco free
12 ordinance again came out. So there's been new changes
13 since the time because of, what do you say, more crime
14 with -- I mean, with the looting, you know, with the
15 concerns of my position as a preservation officer, what I
16 have to deal with, but the socio-economical effects from
17 other things that are trickling down, the Tribe has to
18 come in and beef up other outdated penalties.

19 So there's banishment, which is disenrollment, and
20 that comes through treaty. There was a clause in there
21 called the Bad Men clause. From there it came down to
22 where the Tribes can actually disenroll people for
23 certain things.

24 And, like I said, with trafficking and looting,
25 archaeological stuff, you know, maximum of \$500 million

1 and exclusion from the reservation.

2 Q. Within that exclusion might that also apply to
3 nonmembers?

4 A. Yes. There has been tribal ordinances -- or yeah.
5 Tribal resolutions passed in disallowing certain people
6 on the reservation doing business. You know, we've had
7 archeologists who have been banished from the
8 reservation, of doing any type of work.

9 Q. I see. And would any of these kinds of policies and
10 procedures and ordinances apply to the business of oil
11 pipeline work?

12 A. They have -- it's really hard for me to get into the
13 politics of stuff because this job -- I mean, we're
14 looking at nine, 10 states with ancestral territories,
15 and then we've got the political parts of things where
16 tribal ordinances I think on -- I think there's like five
17 of them -- five of them on Keystone. That's just one
18 pipeline. And we have Dakota Access yet.

19 We've got five others trying to cross Lake
20 Sakakawea. So constantly these -- the Tribe's stance on
21 pipelines, I know right to begin with they said no. No
22 drilling. Because we seen the effects of it, you know,
23 with other Tribes up north.

24 MR. GOUGH: Thank you. I have no further
25 questions.

1 MR. SMITH: Thank you.

2 Ms. Baker.

3 CROSS-EXAMINATION

4 BY MS. BAKER:

5 Q. Jennifer Baker for the Yankton Sioux Tribe. Just
6 quickly, I believe we've had testimony earlier in this
7 proceeding that not 100 percent of the route has been
8 surveyed yet for cultural sites.

9 Can you explain why as a Tribal Historic
10 Preservation Officer there might be concern if an entire
11 route hasn't been surveyed yet?

12 MR. TAYLOR: Excuse me for a minute. Didn't
13 Yankton Sioux Tribe waive cross-examination? Did I miss
14 that? I think they did.

15 MR. SMITH: Well, they said they weren't going
16 to do any.

17 MS. BAKER: In light of the previous questions,
18 and this could be considered recross under that
19 circumstance.

20 MR. SMITH: Yeah. I think that was Ms. Real
21 Bird earlier; right?

22 MR. TAYLOR: I understand the rules of procedure
23 were that one lawyer got to examine on behalf of a party
24 for one witness. And Ms. Real Bird said -- thanked
25 Mr. Vance for appearing and said she had no questions.

1 MS. BAKER: At this point we're on recross, and
2 I would like to ask this one question. Ms. Real Bird
3 asked the previous question, but I don't believe there's
4 any rule prohibiting that.

5 MR. SMITH: Commissioners?

6 CHAIRMAN NELSON: I don't know. Is there a rule
7 or not?

8 MR. SMITH: I mean, there's an --

9 MS. EDWARDS: This is Kristen Edwards for Staff.
10 I believe from a legal perspective the Commission would
11 have the ability to grant leave to a party to deviate
12 from its prior order if it wished to do so.

13 MR. SMITH: Yeah.

14 Please proceed, Ms. Baker. I'm going to
15 overrule on this limited basis.

16 MS. BAKER: Thank you.

17 Q. Mr. Vance, do you need me to repeat the question, or
18 did you catch that?

19 A. The concern for Tribes when we're talking about a
20 project for this specific project would be from where it
21 enters the United States to its final destination.

22 In the original discussions they were allowing
23 Tribes to identify nearby their reservations. So
24 100 percent was not done.

25 In the documents over there you see with the

1 environmental -- or the Supplemental Environmental Impact
2 Statement was 137 sites identified. And Tribes knew they
3 could put probably two more zeros to the end of that
4 number if they had full involvement with 100 percent
5 survey. So there was not 100 percent survey offered for
6 the Tribes.

7 Q. And what is the risk if it's not 100 percent
8 surveyed?

9 A. Well, the one we always cringe upon happening is
10 uncovering human remains. There's a separate law,
11 Native American Graves Repatriation Protection Act.
12 NAGPRA they call it. That's the major concern when human
13 remains are exposed or disturbed or, you know, looted.
14 So that would be the major one.

15 Other than that is our history. I mean, that's a --
16 you know, it's almost a given thing when anybody's
17 remains are going to be disturbed. Beings there's a
18 federal law that protects these things, you know, we have
19 to address those through our positions on the historical
20 and cultural issues of it. These are pages of our
21 history that we're having finally an opportunity to
22 record.

23 When we talk about Slim Buttes and the issue with
24 the cavalry, what about Slim Buttes before Columbus?
25 That's our opportunity. And, again, it's opportunity is

1 all we've got as Tribes to get out there to at least
2 protect and to preserve that that is cultural or, what
3 they say, associated to Tribes.

4 Q. Are you familiar with this sort of thing happening
5 where there's an unanticipated discovery in Eagle Butte
6 recently?

7 A. Yes.

8 Q. Could you expand upon that just a little bit as how
9 it might be a similar concern?

10 MR. TAYLOR: Can I interpose one more objection?

11 MR. SMITH: Yes.

12 MR. TAYLOR: We're so far beyond the scope of
13 his direct examination that he can't see it anymore.

14 MR. SMITH: I'm going to let him answer.

15 Overruled.

16 MS. BAKER: Thank you.

17 A. Of course, everybody here in South Dakota knows how
18 much moisture we got kind of late in the year but, you
19 know, we didn't get it in December but all the sudden in
20 May and June we just had rain, rain, rain, rain, rain.

21 Well, with that came erosion. And kids have found a
22 swimming hole, and human remains come out of the site.
23 And I heard earlier, you know, the concern of, you know,
24 erosion on slopes. And, you know, that's where that's
25 at.

1 It's with law enforcement now. They're taking care
2 of their portion of it. When it comes back to us we will
3 respectfully put the remains back to rest.

4 But, like I said, that was just recently. There may
5 be rumors out there about another one. That was found
6 out to be a pig's rib. The rib of a pig.

7 But nobody knows. If you go out there and you find
8 a rib say this size and this shape, you don't know if
9 it's human or animal. And with, you know, 333 different
10 water bodies being crossed, you know, that's going to be
11 a big concern for Tribes.

12 MS. BAKER: Thank you. I have no further
13 questions.

14 MR. SMITH: Okay. Now Staff, do you have
15 anything?

16 MS. EDWARDS: No.

17 MR. SMITH: Keystone?

18 MR. TAYLOR: No questions. Thank you.

19 MR. SMITH: Okay. I think you may step down
20 then, Mr. Vance. Thank you.

21 Okay. Break until 3:30, Commissioners?

22 MR. TAYLOR: John. Mr. Smith, what are we going
23 to do next? Who is going to be the next witness?

24 MR. SMITH: Is that your only witness then?

25 MR. CLARK: We had two witnesses; Carlyle

1 Ducheneaux who went on Thursday, and Mr. Vance. So
2 that's it.

3 MR. SMITH: Next up I think is Rosebud.

4 MR. RAPPOLD: Rosebud has rebuttal witnesses.

5 MR. SMITH: Oh, they don't have any direct.

6 MR. CAPOSSELA: Mr. Smith, as I mentioned
7 yesterday, our witness is unable to be here today so we
8 deferred to Dakota Rural Action. With your indulgence.

9 MR. SMITH: Okay. He'll only be here today?

10 MR. CAPOSSELA: No. He's not here today.

11 MR. SMITH: Okay. You said he's not here today.
12 Are you set up today?

13 MR. MARTINEZ: Yes. We're ready to go. In
14 fact, when we come back we're ready to go with
15 Mr. Evan Vokes.

16 MR. SMITH: Okay. Thanks.

17 (A short recess is taken)

18 MR. SMITH: We'll reconvene the hearing in
19 Docket HP14-001. And we're commencing with Dakota Rural
20 Action's testimony.

21 Mr. Martinez.

22 MR. MARTINEZ: Thank you, Mr. Smith. Thank you,
23 Commissioners.

24 We're calling Evan Vokes as our witness in this
25 case.

1 (The oath is administered by the court reporter.)

2 DIRECT EXAMINATION

3 BY MR. MARTINEZ:

4 Q. Mr. Vokes, can you please identify yourself for the
5 record.

6 A. My name is Evan Vokes. I was an engineer at
7 TransCanada, and currently I live in Didsbury, Alberta.

8 Q. Okay. Did you prepare some prefiled testimony in
9 this case?

10 A. I did.

11 Q. Do you have that with you?

12 A. Yes, I do.

13 Q. Do you recall preparing it?

14 A. Yes, I do.

15 Q. And have you reviewed that prefiled testimony in
16 advance of this hearing?

17 A. Yes, I have.

18 Q. Okay. Are there any corrections or any type of --
19 any type of changes you wish to make to that prefiled
20 testimony here today?

21 A. Yes. On the testimony on the bottom of page 1 it
22 says 30 miles of 36-inch pipe. It's 306 miles.

23 Q. Oh, so is that just simply a typo?

24 A. That's a typo.

25 Q. Okay. So the actual document should read 306 as

1 opposed to 30?

2 A. That's correct.

3 Q. Are there any other changes?

4 A. Not that I know of.

5 Q. And you signed off on the testimony, your signature
6 appears --

7 A. I wrote it. I signed it.

8 Q. Okay.

9 MR. MARTINEZ: This is part of DRA since our
10 Exhibit No. 3 included a much larger number of documents.
11 I think it might be just easier to designate this as 3-A.
12 That might be probably the simplest way to deal with
13 that.

14 So I move to admit it would be DRA Exhibit 3-A
15 in this case.

16 MR. WHITE: Mr. Smith, before the testimony is
17 admitted, we would have some questions going to a
18 potential objection to its admission.

19 MR. SMITH: May he proceed?

20 MR. MARTINEZ: Certainly.

21 MR. WHITE: Good afternoon, Mr. Vokes. My name
22 is Jim White. I'm an attorney with TransCanada. A few
23 questions for you today.

24 Could you tell us who you're appearing on behalf
25 of today? Remind us.

1 THE WITNESS: I'm appearing on behalf of Dakota
2 Rural Action.

3 MR. WHITE: And how did you come to be a witness
4 for Dakota Rural Action?

5 THE WITNESS: They asked for help. They had no
6 money, and they needed a hand.

7 MR. WHITE: Okay. And did they participate in
8 preparing your testimony?

9 THE WITNESS: No.

10 MR. WHITE: Did they review it before it was
11 filed?

12 THE WITNESS: No. They wouldn't know what to
13 review.

14 MR. WHITE: And are you under some sort of
15 contractual arrangement with DRA?

16 THE WITNESS: No. I'm under contractual
17 arrangement with nobody here. I don't have to be here.
18 I have what I need. If I wanted to, I could leave right
19 now. I'm only here to help them out, all the
20 Intervenors. They have no representation.

21 MR. WHITE: And are you being compensated in any
22 way for your testimony today?

23 THE WITNESS: No.

24 MR. WHITE: Could you briefly describe your
25 educational background?

1 MR. MARTINEZ: I would object to this line of
2 questioning. This is more like a direct line of
3 questioning that I would have of Mr. Vokes.

4 What I would like to know, Mr. White, is where
5 you're essentially going with this because you're kind of
6 getting into a lot of the introductory material that I
7 would normally ask of a witness on direct in terms of his
8 background and educational experience.

9 MR. WHITE: First of all, I suggest you address
10 Mr. Smith and not me.

11 Second, these are questions preliminary to
12 making a potential objection. I think we have some
13 leeway to do that.

14 MR. SMITH: Sustained.

15 MR. WHITE: I'm not sure what was sustained.

16 MR. MARTINEZ: My objection.

17 MR. SMITH: Oh, is that what you were --

18 COMMISSIONER HANSON: No. I was saying --

19 MR. SMITH: So overruled.

20 COMMISSIONER HANSON: The reason is that there's
21 numerous examples of where the parties have asked other
22 witnesses the very same questions, repeatedly and even
23 after it's been presented. So it's a quid pro quo.

24 MR. MARTINEZ: Well, certainly, Commissioner
25 Hanson, I think the reason I wound up objecting on that

1 basis was because, you know, normally the order of battle
2 is such that when you put on a witness typically I get to
3 lay the foundation.

4 And to the extent then that the opposition has
5 any objections during the course of that testimony, they
6 can raise those objections at that time.

7 COMMISSIONER HANSON: I understand that. And
8 you're certainly able to flesh it out more if you want to
9 after he's made his objection.

10 MR. CAPOSSELA: The Standing Rock Sioux Tribe
11 object's to TransCanada's butting in on Dakota Rural
12 Action.

13 I don't know what rule of procedure we're
14 operating under to enable them to do that. And I'm not
15 sure what the quid pro quo is that might permit that.
16 But the rules of -- you know, we're outside the Rules of
17 Civil Procedure, which are the rules that govern under
18 the Administrative Procedures Act.

19 And the Tribe would request that Dakota Rural
20 Action be permitted to proceed with direct examination of
21 its witness in accordance with the rules.

22 MR. WHITE: If I might, there was at least one
23 prior witness who was questioned preliminary to
24 cross-examination for the purposes of making an
25 objection.

1 MR. SMITH: Okay. And, again, it relates to
2 something you don't usually see in civil court, which is
3 prefiled testimony, which is kind of an odd duck.

4 MR. CAPOSSELA: I appreciate that. But I'm
5 still -- I've never seen this type of order for witness
6 testimony. And it does seem to be outside of the rules.

7 MR. SMITH: Okay. Based on Commissioner
8 Hanson's preference, I'm going to overrule, at least for
9 now.

10 And but please proceed, Mr. White.

11 MR. WHITE: Thank you.

12 MR. WHITE: Do you recall the question?

13 THE WITNESS: No. Would you repeat it.

14 MR. WHITE: Could you please provide your
15 educational background for us.

16 THE WITNESS: I have a BSE and an MSE in
17 materials engineering from the University of Alberta. I
18 have a journeyman machinist ticket in the Province of
19 Alberta Interprovincial Red Seal.

20 MR. WHITE: And are you a licensed professional
21 engineer?

22 THE WITNESS: I was.

23 MR. WHITE: Are you no longer?

24 THE WITNESS: I am no longer a licensed
25 professional engineer.

1 MR. WHITE: And why is that?

2 THE WITNESS: Because I let the certification
3 drop because for some reason the industry didn't like me
4 anymore.

5 MR. WHITE: Prior to your employment at
6 TransCanada where were you employed?

7 THE WITNESS: I was employed at body code
8 (check) materials testing.

9 MR. WHITE: And subsequent to your employment at
10 TransCanada where were you employed?

11 THE WITNESS: The only employment I've had since
12 then is the work I've done on my own through my own
13 company.

14 MR. WHITE: Okay. And have you been in the
15 hearing room for at least portions of this hearing?

16 THE WITNESS: Yes, I have.

17 MR. WHITE: Okay. In fact, I believe you were
18 videotaping and photographing our witnesses as they were
19 testifying; is that right?

20 THE WITNESS: That's correct.

21 MR. WHITE: And what was the purpose --

22 MR. MARTINEZ: I would object to the line of
23 this questioning. I'm not understanding how a lot of
24 this is even relevant at all in terms of forming the
25 basis of some sort of objection to Mr. Vokes's testimony.

1 MR. WHITE: In part goes to bias. But it's
2 quick.

3 MR. SMITH: We're going to sustain that.

4 MR. WHITE: Okay.

5 When were you hired at TransCanada?

6 THE WITNESS: I was hired in February of 2007.

7 MR. WHITE: What was your position at that time?

8 THE WITNESS: I was hired into the welding group
9 where there was no engineer.

10 MR. WHITE: And what was your title at that
11 time?

12 THE WITNESS: I was an engineer in training.

13 MR. WHITE: Okay. And subsequent to that were
14 you promoted into another position?

15 THE WITNESS: In 2008 I started working with
16 automated ultrasonic testing, which I went and took over
17 when Dave Hodgkinson retired in 2009.

18 MR. WHITE: What level of engineer were you at
19 that point?

20 THE WITNESS: 2009 I became a professional
21 engineer.

22 MR. WHITE: And were you then, I guess, a junior
23 engineer? Is that appropriate?

24 THE WITNESS: Well, you can call it what you
25 want. On paper it's junior engineer, but I have years of

1 experience that don't show.

2 MR. WHITE: And how long did you continue in
3 that position from 2008?

4 THE WITNESS: Until my termination in May 2012.

5 MR. WHITE: And was there a period of time while
6 you were employed at TransCanada -- while you were an
7 employee of TransCanada that you were not actively
8 working?

9 THE WITNESS: That's correct.

10 MR. WHITE: And when did that commence?

11 THE WITNESS: Well, actually I was not actively
12 showing up for work, but I was certainly actively
13 working. And that commenced October 26, 2011.

14 MS. CRAVEN: IEN objects to this. This seems
15 like he's cross-examining him without even being offered
16 as a witness. It's totally out of order.

17 They had an opportunity if they didn't want
18 Mr. Vokes to testify, to submit a Motion in Limine, and
19 they did not do that.

20 MR. RAPPOLD: Rosebud joins the objection too.
21 This seems entirely out of order. And I understand we've
22 got the issue of Direct Testimony being prefiled and
23 whatnot, but this just doesn't seem like anything that's
24 acceptable.

25 MR. MARTINEZ: Mr. Smith, I've been biting my

1 tongue here just listening to this. I know it is very
2 clear that TransCanada does not care for Mr. Vokes.

3 I think, in fact, in my opening statement before
4 you I actually said, you know, he's probably one of their
5 least favorite people in the universe.

6 MR. WHITE: Object to the characterization.

7 MR. MARTINEZ: A lot of companies, you know,
8 tend to not like whistle blowers. I think that's
9 certainly the case here.

10 If they believe that Mr. Vokes has any sort of
11 bias, you know, towards TransCanada, they can certainly
12 inquire about that on cross-examination.

13 MR. CAPOSSELA: Standing Rock joins the
14 objection and wonders what TransCanada's scared of.

15 MR. CLARK: Cheyenne River Sioux Tribe also
16 joins in the objection.

17 COMMISSIONER HANSON: You don't need to
18 elaborate. We understand.

19 MR. BLACKBURN: Bold as well.

20 MS. REAL BIRD: Yankton joins the objection.

21 MR. GOUGH: InterTribal COUP joins the
22 objection.

23 COMMISSIONER HANSON: Excuse me. If I may, the
24 reason that I was allowing Mr. White to pursue whatever
25 he was pursuing is because he was pursuing items that

1 were not in the direct testimony. And I thought that he
2 would have a succinct reason to get to for his objection
3 and then you would be able to flesh out and it would
4 be -- it would make sense that way.

5 But you really need to get to the point.

6 MR. WHITE: And I do. I do have a succinct
7 objection, and we're close to making it at this point. I
8 think we've established that Mr. Vokes's employment was
9 from February of 2007 -- his active employment was from
10 February of 2007 to October of 2011.

11 There are substantial portions of Mr. Vokes's
12 testimony that cover items that fall outside of that time
13 frame going well beyond 2011. Our objection is that
14 information that is within his testimony within those
15 periods of time that he was not employed at TransCanada
16 are essentially hearsay.

17 They are not direct knowledge. They could not
18 be direct knowledge because Mr. Vokes was not an employee
19 of TransCanada within the company -- an active employee
20 of TransCanada within that time.

21 So we would object to the admission of any
22 testimony that falls after October of 2011 as hearsay.

23 MR. MARTINEZ: I don't think you can make a --
24 or sustain any kind of an objection to something as being
25 hearsay until you hear actually what it is.

1 Mr. Vokes is certainly entitled to testify about
2 what he knows. And if he knows or has learned of
3 information since he was employed at TransCanada, he's
4 entitled to testify about that.

5 COMMISSIONER HANSON: That's correct.

6 MR. MARTINEZ: If it turns into hearsay, Mr.
7 White can make an objection at that point in time.

8 MR. WHITE: We've seen the testimony in the
9 prefiled testimony. We know what it looks like. It has
10 to have come from someone else because he was not there.

11 He could not have had direct personal knowledge
12 of it for a period of time when he wasn't at the
13 company.

14 COMMISSIONER HANSON: However, you need to
15 object to those specific items and you have to wait until
16 it's introduced as evidence and then you can object to
17 it.

18 At this point I don't think there's anything to
19 object to.

20 MR. SMITH: You haven't offered it yet, have
21 you? Or did you?

22 MR. WHITE: Yes, he did.

23 MR. MARTINEZ: We offered his prefiled
24 testimony.

25 MR. SMITH: Why don't we hold off on that for

1 now. I guess you could do it through a motion to strike
2 as well at a later date.

3 Is that what you're thinking of, Commissioner
4 Hanson?

5 COMMISSIONER HANSON: Well, I've read and
6 there's several pages obviously so you can't just blanket
7 say I object to all of it.

8 Give us the specific areas.

9 MR. WHITE: Happy to do that.

10 MR. HARTER: I object to this. John Harter.

11 COMMISSIONER HANSON: It's a proceeding that's
12 certainly legal.

13 MR. WHITE: Page 1 of Exhibit DRA 3-A, second
14 paragraph refers to events and activities in 2015 four
15 years after Mr. Vokes was an active employee within
16 TransCanada, outside of his employment, therefore,
17 necessarily conveyed to him by someone else. And it
18 specifically references assisting another ex-TransCanada
19 employee.

20 MR. MARTINEZ: Mr. Vokes can certainly testify
21 as to what assistance he provided to the other
22 TransCanada employee that he's referring to. If that's
23 within the scope of his knowledge, he can testify to it.

24 MR. WHITE: Any information that came from that
25 employee is necessarily hearsay.

1 MR. GOUGH: Mr. Smith, I have an objection.
2 This kind of thing is exactly what we've been told needs
3 to be handled in motions prior to this hearing.

4 This has been on file -- this has been filed
5 testimony. They had ample opportunity to file a motion
6 objecting to portions. Are we going to read through his
7 whole testimony and start black lining it out now? There
8 was time for that in prefiled -- in prehearing motions.

9 MR. SMITH: Do you have a response to that,
10 Mr. White?

11 MR. WHITE: There have been a number of hearsay
12 objections as we've gone through the proceeding. This is
13 another one.

14 MR. SMITH: We did deal with an awful lot of
15 preclusions in prefiled -- or in prehearing motions,
16 and -- and in limine motion process. I guess, is there a
17 reason why --

18 Do you have a reason to assert why you didn't do
19 that at that time or --

20 MR. WHITE: Our understanding was that the
21 limine practice was not the only opportunity to object to
22 admission of evidence that is clearly barred by the
23 hearsay rule.

24 MR. SMITH: What I'm going to suggest, and,
25 Commissioners, you can go a different direction if you

1 want, is that we -- maybe that we defer action on receipt
2 into evidence of this and allow you to proceed with your
3 foundational evidence and examination of Mr. Vokes.

4 And we'll go through that and see how it goes.
5 How does that work?

6 MR. MARTINEZ: I'll be happy to do that,
7 Mr. Smith. But I think I would note that the point made
8 was I think very good and that is is that this Commission
9 essentially directed a deadline for filing Motions in
10 Limine that was well after this particular statement was
11 filed.

12 TransCanada filed a number of Motions in Limine
13 that, frankly, excluded a lot of items, including a lot
14 of Dakota Rural Action's exhibits, the Sibson
15 photographs, to even public records that we obtained from
16 the DENR via an open records request.

17 So, you know, I've heard several times, you
18 know, during the course of these proceedings that, you
19 know, Mr. Taylor has used the aphorism what's good for
20 the goose is good for the gander.

21 To me it seems that TransCanada certainly had an
22 opportunity to file a Motion in Limine if they wanted to
23 exclude this testimony. They failed to do so. They
24 ought to live with the consequences of that.

25 Now to the extent that they have objections to

1 what Mr. Vokes may be testifying to here live, they can
2 certainly lodge those objections at that time.

3 CHAIRMAN NELSON: If I were you, Mr. Martinez, I
4 think I'd take Mr. Smith up on his offer to proceed, and
5 we'll deal with this at a later time.

6 Commissioner Hanson, does that work?

7 MR. SMITH: And we'll just have to keep in mind
8 that it hasn't been either rejected or allowed into
9 evidence at that time -- or in part, you know.

10 MR. MARTINEZ: I understand that certainly.

11 MR. SMITH: Sometimes space out and forget about
12 stuff like that. Why don't you proceed. And then
13 Mr. White can use the normal process of objection and
14 whatever as you go along.

15 COMMISSIONER HANSON: Obviously the point of
16 hearsay evidence still has to be considered.

17 MR. MARTINEZ: Oh, certainly. I think that
18 that's throughout any proceeding.

19 May I proceed?

20 MR. SMITH: You may.

21 Q. (BY MR. MARTINEZ) Mr. White so kindly handled a
22 number of the preliminary questions that I was going to
23 ask you, Mr. Vokes, about your testimony so I wish to
24 thank Mr. White for shaving a little bit of time off of
25 my questions.

1 I guess I'll start with -- so we already know about
2 your education and your employment with TransCanada, but
3 I do want you to tell us a little bit more about your
4 academic background.

5 You've got a bachelor's degree, University of
6 Alberta; correct?

7 A. Bachelor's and master's.

8 Q. Let's talk about the bachelor's first. What was
9 your bachelor's degree in?

10 A. In material science.

11 Q. Okay. And what did you study when getting your
12 degree in material sciences? Tell us a little bit about
13 what that encompasses.

14 A. It's the fundamentals of materials. Mostly metals.
15 We move on to ceramics, polymers. We go through both
16 extractive metallurgy and corrosion. So both --
17 extracting metallurgy, corrosion, physical metallurgy.

18 We do study electrical engineering. We do study --
19 we take civil engineering courses. We take statics
20 courses. We take dynamics courses. We take more math
21 courses than we care to imagine.

22 We take -- I took a law course. As part of my arts
23 elective, I took a law course.

24 Q. Was that to help you maybe understand the
25 regulations that might apply to engineering, for

1 instance?

2 A. Yes. It was. It was actually really interesting
3 because it's actually part of the professional practices
4 exam.

5 Part of the professional practices exam is, is not
6 only is it the practice of law, but it's ethics. It's
7 occupational health and safety, those sort of things.
8 It's actually quite broad.

9 Q. By practice law you don't mean the bar --

10 A. Contract law.

11 Q. Okay. But you have to understand --

12 A. Contract law.

13 Q. And do you also have to understand just regulations
14 such as the PHMSA regulations and whatever other
15 applicable regulations might apply in Canada?

16 A. The professional practice exam is particularly
17 written so that it has three or four questions that are
18 almost correct, but you actually have to read the words
19 so that you can actually know and understand what you're
20 reading.

21 Q. Okay. Once you got your bachelor's then you took
22 additional studies by getting a master's degree. What is
23 that in?

24 A. It was also in materials engineering. And I went
25 and did a project on rupture of graphitized steel piping

1 out of a steam piping circuit.

2 Q. Okay. Now I also understand that prior to
3 undertaking all of those academic studies related to
4 materials sciences, that you actually had some sort of
5 real world experience working as a machinist as well.

6 Can you please describe for the Commission what that
7 involved so they can get a better understanding of what
8 your background and experience is?

9 A. I actually start -- I went and started -- when I was
10 young I used to do a lot of mechanics. So I understood a
11 lot about mechanical devices. And I started working in a
12 machine shop and really fell in love with that because it
13 was basically sculpture, and it really appealed to me.

14 So and then when I was -- became a journeyman
15 machinist by that time I had figured out that millwrights
16 got to go outside in the summertime so I started doing a
17 lot of millwrighting because I was very dual skilled.

18 Q. What is millwrighting? What is that?

19 A. It's basically like a heavy duty mechanic except for
20 you're going more into industrial applications,
21 conveyors, pumps, all kinds of applications like that.
22 It's quite an extension of machining.

23 Q. So a lot of essentially industrial machinery is what
24 you worked with?

25 A. Oh, absolutely. We see a lot of piping and all

1 kinds of things.

2 Q. Okay. Let me ask kind of a -- sort of a -- maybe a
3 fundamental or maybe even an existential question here.

4 Why are you here, Mr. Vokes?

5 A. Well, I don't have to be here. I can tell you that.
6 I got kind of what I needed and -- but what I do
7 understand, and I've seen this before, is I've seen
8 Individual Intervenors struggle with not having the
9 information to defend themselves when people don't --
10 when corporations don't extend the courtesy of
11 disclosing the full practice of engineering as they're
12 required to.

13 When engineers appear before commissions as expert
14 witnesses the expectation is is that they will present a
15 fair and balanced argument. They won't hide and duck and
16 not tell the truth.

17 Q. So your purpose then really was to help us get a
18 better understanding of the engineering?

19 A. Yes, I did. I really wish you would listen, but
20 yes.

21 Q. I know. I sometimes don't listen as well as I
22 should, but -- I appreciate that.

23 Let's talk a little bit about your employment at
24 TransCanada. Now Mr. Smith already very kindly
25 delineated the dates that you were there.

1 Can you tell us what you started working on or what
2 your role was when you started working at TransCanada?

3 A. Well, there's two things went and started at the
4 beginning. I had to get a little bit of experience in
5 practical pipeline welding. And within the first few
6 weeks I went to Fort McMurray to get some experience.

7 Q. Where is Fort McMurray?

8 A. Fort McMurray is the town where most of the open pit
9 oil sands mining is based out of. And it's in
10 northeastern Alberta.

11 Q. Okay.

12 A. It's -- I think it's 57, 58 degrees latitude north.

13 Q. Okay. So we can probably figure out where it is on
14 a map.

15 What were you doing there?

16 A. I was -- the project I went out to was having a
17 really high repair rate. Me and Mr. Taylor went out
18 there for four days.

19 Q. You and who? Not Taylor here, I'm assuming.

20 A. David Taylor over there, yes.

21 Q. You say you went there with Mr. David Taylor. Is he
22 over there in the audience?

23 A. Yes. Mr. David Taylor.

24 Q. Can you point him out for me?

25 A. That person right there.

1 Q. Which one? Third from the end?

2 A. Yep. Third from the end.

3 Q. Sitting next to Mr. White?

4 A. Right in the middle.

5 Q. Oh, okay. So you and Mr. Taylor then, you went up
6 to Fort McMurray?

7 A. That's correct.

8 Q. Okay. What were you doing up there?

9 A. We were doing things like measuring the bevel
10 angles, things like that, so we could understand why the
11 welding had a high repair rate.

12 Q. What do you mean by "the welding had a high repair
13 rate"?

14 A. I can't remember what the problem was at the
15 beginning when we went up there. But it was -- it was
16 quite high. High enough that Mr. Taylor needed to make a
17 field visit, and he took me along.

18 Q. Was this a TransCanada Pipeline that was up at
19 Fort McMurray?

20 A. That's correct. It was the liquid section of -- I
21 don't remember what the full name of the project was, but
22 it was at Fort McKay.

23 Q. Was it under construction at the time?

24 A. It was under construction at the time.

25 MR. WHITE: Mr. Smith, at my peril, another

1 objection. When we put on our witnesses we followed the
2 Commission's prefiled testimony rule.

3 We put all of our testimony in our prefiled
4 testimony. We did not ask our witnesses to elaborate on
5 their testimony when they got live on the stands so that
6 every Intervenor had an opportunity to review everything
7 our witnesses were going to say and prepare
8 cross-examination on it.

9 We're now going down a totally different path
10 where this witness is putting in brand new testimony live
11 at the hearing we've never seen before, we never had an
12 opportunity to prepare cross-examination for. It's
13 fundamentally prejudicial to us.

14 I understand that you granted Staff witness some
15 leeway to do that, but that changes the rules for us as
16 the party that went first and followed the prefiled
17 testimony rule.

18 So I'm going to object to any new testimony
19 that was not in his prefiled testimony on that basis.

20 MR. MARTINEZ: You know what, Mr. Smith, I
21 cannot help how TransCanada chose to put on its case.
22 And if they chose to simply rest on their prefiled
23 testimony without essentially asking their individual
24 witnesses more detailed questions about it and laying
25 more foundational information about it, that's not my

1 fault. That's their problem.

2 MR. WHITE: Those are --

3 MR. MARTINEZ: I'm entitled under the rules to
4 engage in direct examination of Mr. Vokes.

5 MR. WHITE: There was a very clear ruling in
6 this case that testimony was to be prefiled. Witnesses
7 were precluded for not filing prefiled testimony.
8 Therefore, our witnesses relied on their prefiled
9 testimony completely consistent with the Commission's
10 Order.

11 MR. SMITH: And I appreciate that. I mean,
12 typically in these cases I will tell you we allow direct
13 testimony live. And one reason it's like -- I think it's
14 sort of going back to normally the way we do it is we
15 take both direct and rebuttal right away.

16 Because there's no point in pretending that the
17 documents don't exist. You know, at present they exist.
18 And it's easier just to get it out of the way.

19 Now in this case, I mean, what we usually ask is
20 that people keep the direct testimony to a fairly
21 succinct summary.

22 Now here we have a different situation, though,
23 I think, Mr. White, because in a sense, I mean, one of
24 the things that's at issue here is foundation for the
25 testimony.

1 So to the extent we're going down that path, I
2 don't know how else we can get there other than allowing
3 him to lay his foundation for what Mr. Vokes has written
4 in his statement, in his prefiled statement.

5 MR. WHITE: It just strikes me that we've gone
6 far beyond what's traditionally foundational, and we're
7 introducing brand new assertions of fact into the record,
8 some of which may have been covered in exhibits which
9 were precluded from the docket. Which, of course, we
10 won't be able to know until we have a chance to go back
11 and look at what's said and compare it to what's
12 precluded from the docket.

13 MR. MARTINEZ: I, frankly, find it rather
14 surprising that TransCanada would be surprised by
15 anything that Mr. Vokes said. I mean, he's been on their
16 radar screen for quite some time.

17 I mean, having worked within large corporate
18 entities and including governmental entities, public
19 sector, private sector, the first thing that happens when
20 you have an employee who's a whistle blower that you
21 don't particularly care about -- and, in fact, there's
22 plenty of press coverage out there about how TransCanada
23 has tried to discredit him.

24 The first thing they do is pull every single
25 communication that he's ever engaged in at the company,

1 look at every project he's ever worked on because they've
2 got to build a dossier. And I think, frankly, my
3 understanding is they've even hired a public relations or
4 a private investigation firm to follow Mr. Vokes around.

5 So, honestly, I don't think they're surprised by
6 anything that Mr. Vokes has to say today.

7 MR. SMITH: To the extent we're basically laying
8 foundation, I think proceed. You know, and again I heard
9 what Mr. Vokes said, and what he said is that he wrote
10 this up himself. It wasn't done by you as part of a
11 formal question and answer prefiled testimony type
12 presentation. At least that's what he just said.

13 MR. MARTINEZ: And we wanted Mr. Vokes to be
14 able to speak with his own voice and have that
15 opportunity.

16 MR. SMITH: Okay. And so -- yes, sir.

17 MR. CAPOSSELA: I didn't mean to interrupt you,
18 Mr. Smith, in midsentence. I apologize for that.

19 The notion that there's something procedurally
20 unfair as it relates to TransCanada is inaccurate. The
21 Commission's been very fair procedurally to TransCanada
22 up to this point. And Mr. Vokes should be permitted to
23 testify.

24 MR. SMITH: Yeah. And I don't recall us saying
25 that TransCanada couldn't present, you know, summary

1 testimony.

2 We usually try to keep it to that, relatively
3 speaking, because we've already seen the prefiled
4 testimony so just, you know, covering the same ground
5 over again doesn't accomplish much.

6 But here I think there's a need to -- at least
7 on a foundational level because of Mr. White's objection,
8 to go down a path that lays a foundation for it.

9 Yes.

10 MS. REAL BIRD: Thank you, Mr. Smith. Thomasina
11 Real Bird for the Yankton Sioux Tribe.

12 And I just wanted to point out the Commission's
13 Order noticing this hearing dated July 2. It did
14 specifically contemplate this situation when it ordered
15 that witnesses for whom prefiled testimony was not filed
16 will also be precluded from testifying or offering
17 evidence at the hearing except to the extent that such
18 testimony or evidence will address new facts, evidence,
19 or opinions introduced at the hearing that were not
20 presented in prefiled testimony.

21 So the Commission contemplated this very
22 situation and granted it and provided notice to all
23 parties.

24 MR. WHITE: And what we're hearing here is not
25 rebuttal to anything that we've heard at the hearing to

1 date so far.

2 MS. REAL BIRD: My point was, sir, Mr. Smith,
3 that we're not presented in prefiled testimony so there
4 will be testimony other than prefiled is what the Order
5 contemplates.

6 MR. SMITH: It does contemplate that. Although
7 it also contemplated that at least on the direct -- you
8 know, that the prefiled would be thorough with respect to
9 what -- what was available at that time.

10 And, again, you can't always have it available
11 at that time because you don't know what other parties
12 are going to present and do and that kind of thing.

13 Let's go down that path at least with respect to
14 foundation and all of that in a summary, and but we don't
15 want to -- we'll just play it by ear as you're going
16 along there. Okay.

17 MR. MARTINEZ: I appreciate that. Thank you,
18 Mr. Smith.

19 Q. Mr. Vokes, you were just talking about how you went
20 up to Fort McMurray and your very first project for
21 TransCanada?

22 A. That's correct.

23 Q. Up to Fort McMurray with Mr. David Taylor, who is
24 sitting over at counsel table for TransCanada. And you
25 were examining or doing some kind of inspection related

1 to welding; is that correct?

2 A. That's correct.

3 Q. Why were you there doing that? What was the point
4 of that?

5 A. I needed to learn. I wasn't familiar with pipeline
6 welding. I needed to learn the culture and the technical
7 of how the manufacturing process occurred.

8 Q. Okay. So what specifically did you learn there when
9 you were working on that project?

10 A. Well, the first trip was very quick, and I came back
11 and was actually -- the department was quite busy right
12 then. We actually had to start -- we had bought a bunch
13 of American assets. We started writing -- updating
14 American pipeline specifications right away.

15 Q. Those were the PHMSA regulations?

16 A. Yeah.

17 Q. And specifications?

18 A. Yeah. To meet the PHMSA requirements.

19 Q. So you were, as part of that process, learning the
20 overall regulatory landscape for the pipeline industry;
21 is that correct?

22 A. Yeah. Immediately I went and borrowed a copy of
23 CSA-Z 662 and took it home and studied it so I was
24 familiar with what was going on.

25 Q. Okay. Now when you were actually there tell me a

1 little bit about welds and pipelines. Because obviously
2 somebody thought that that was important that you go
3 learn about welding and pipelines as it relates to
4 pipelines.

5 Why is welding important?

6 A. Welding is important because it's the -- we have two
7 choices. We can bolt things together, or we can join it
8 together with fusion, which is welding. That's our only
9 two choices.

10 And it's the -- it's seamless. It doesn't leak.
11 And it allows good construction speed.

12 Q. So for every segment of pipeline that you have, and
13 we've seen lots of photographs during these hearings of,
14 you know, stacks of sections of pipe, when those are laid
15 in the ground they have to be welded together?

16 A. They have to be welded together. It has to be
17 reliable and it has to be proven and it has to be fast.

18 Q. You said reliable, proven, and fast. So is that so
19 it won't leak?

20 A. Yes. So and the only way we can do that is welding,
21 coating, and nondestructive testing share common
22 characteristic, and it's called proof by reference. We
23 don't actually know what the quality of the weld is
24 unless we prequalify it by destructive testing.

25 And so what we have to do is we actually have to go

1 through the effort of going through the essential
2 variables, recording the essential variables,
3 destructively testing until we get the test results we
4 want.

5 And then as long as we replicate the test results,
6 we should be able to produce a good product. And the
7 same applies for welding, nondestructive testing, and
8 weld materials.

9 Q. So you've -- so a lot of your work then, did it
10 involve testing those welds of pipelines?

11 A. Yeah. At the end it was almost -- yeah. A very
12 large percentage was testing of welds.

13 Q. Okay. Now you've indicated there are a couple of
14 different ways of testing welds. One I believe I just
15 heard you say was destructive testing.

16 What exactly is that?

17 A. So destructive testing is when you use it to prove
18 properties. And there's a number of properties that are
19 required in any code.

20 And traditionally we need to look at things like
21 strength and toughness. Those are the important ones.
22 And also another one is hardness, which indicates whether
23 or not there's going to be a crack potential.

24 So those are -- essential variables are designed
25 to -- so we can approximate those results.

1 Q. Now the word "destructive" in there is in there, I
2 guess, because what do you do? You actually -- after the
3 weld is accomplished do you actually go and destroy it
4 during the testing process?

5 A. Yes. That's correct.

6 Q. I guess when you're actually putting a pipeline out
7 in the field you wouldn't necessarily engage in
8 destructive testing. That would be counterproductive,
9 wouldn't it?

10 A. That's correct.

11 Q. Okay. So what's the other type of testing you do?
12 You said there was a nondestructive type of testing?

13 A. Okay. Yeah. So there's nondestructive type testing
14 comes in several different basic flavors. The ones we
15 generally use the most are radiography and ultrasonic.

16 Q. Okay. Let's start with radiography. Can you please
17 tell us what that is?

18 A. Radiography? I like to describe it as a very bright
19 light. And it could be -- it's generally cast into film.
20 And it's proof by reference so we have to have some way
21 of knowing what the approximate defects would look like.

22 So we use what we call penetrameters, and the
23 penetrameters allow us to make judgment calls as to what
24 the defects are. It's a very visual thing.

25 Q. So is it by taking sort of a very high resolution

1 photograph of the welds then?

2 A. That's correct.

3 Q. Okay. And how are those examined then?

4 A. They're examined visually over bright light. The
5 film's quite dark until -- you have to have a light
6 behind it to shine through.

7 Q. Does that provide you with a fairly good method of
8 determining whether or not there are defects?

9 A. Not only fairly good volumetric defects, there's
10 other types of defects that aren't readily available to
11 be seen, and lack of fusion defects and cracks can be
12 missed quite readily with that.

13 Q. Is that why you use more than one method to test
14 welds?

15 A. Yeah. There's better methods to find the expected
16 defects in the pipeline, and you need to pick your method
17 to find the expected defect.

18 Q. Okay. So besides the radiography that you just
19 talked about, what other methods of nondestructive
20 testing did you wind up using?

21 A. We used a lot of automated ultrasonic testing. I
22 learned from one of the grandfathers of the automated
23 ultrasonic testing. He was influential in the original
24 design and specifications of automated ultrasonic
25 testing. A lot of pipeline materials, welding knowledge,

1 and automated ultrasonic testing knowledge, coating
2 knowledge, actually come from the original Nova Gas trunk
3 lines.

4 Q. Is Nova Gas a TransCanada company?

5 A. That's correct.

6 Q. Okay. Now how does that particular type of testing
7 work, the ultrasonic? Help us understand that. Because,
8 I mean, I certainly don't, and I know that a lot of folks
9 here in the room probably are not engineers, with maybe
10 the exception of some of our friends from TransCanada.
11 But help explain that to us.

12 A. So basically what we have to do is we bounce a sound
13 wave through material, and what we have to do is we have
14 to calibrate the sound wave to what we call echo dynamics
15 at the beginning.

16 So we make up a blank block of steel in
17 approximately the shape of the weld bevel, and we bounce
18 sound back into it and receive it, and so we can actually
19 tell what the shape of the signal is.

20 And then when we actually run it on the weld we use
21 something called echo dynamics, which allows us to infer
22 what the type of defect is.

23 Q. Okay. Now what company -- or I guess tell me from
24 your experience at TransCanada when a pipeline is being
25 constructed, is that type of testing done on every single

1 weld that you have for each segment of pipe?

2 A. Okay. It depends on the local regulations of what
3 you actually need to do. You actually have to look at
4 the regulations.

5 Generally the traditional is in main line piping
6 that we will do 100 percent of all the welds. And the
7 reason why is because if you have one bad weld, it can
8 create a huge economic loss for the company. So you
9 don't want to be having -- you don't want to have a
10 chance.

11 The base Part 195, if I remember right, still only
12 requires 15 percent, which is one in seven welds. I
13 would actually have to check on that, but I haven't
14 looked at that for a while.

15 Q. Part 195, you mean the PHMSA regs?

16 A. That's correct.

17 Q. Okay. And you said they only require what, the test
18 of one out of seven welds?

19 A. One out of seven welds. CSA-Z 662, we'll be
20 referring to it quite a bit.

21 Q. What is the CSA? Is that a Canadian standard?

22 A. It's a Canadian standard for construction of oil and
23 gas pipelines. And in United States we use Part 192 and
24 Part 195 and adopt under that -- we adopt standards B31.8
25 for gas and B31.4 for oil as the written practice to

1 construct the pipeline.

2 Q. All right. Now you said that PHMSA regs require
3 testing of one in seven welds. Is the Canadian standard
4 different?

5 A. The base CSA standard, one in seven.

6 Q. One in seven. Okay.

7 But was your experience with TransCanada just a
8 little bit different?

9 A. Yeah. From the Nova Gas lessons we tried to do
10 100 percent of all the welds.

11 Q. Okay. Now jumping back now to the trip you took up
12 to Fort McMurray with Mr. Taylor, what did you find --
13 what did you find there?

14 A. As I was learning what was going on -- so what I
15 started doing was I started tracking the -- with the
16 automated ultrasonic testing you can tell what welder did
17 what pass. And because you mark the welders in the pass
18 on the pipe, and you compare it to the defects in the
19 automated ultrasonic scans.

20 And so by comparing the automated ultrasonic scans
21 to the welder numbers you can figure out where the
22 problems came from. And I couldn't understand it for
23 quite a while, and then finally I went in and clued in to
24 what it was.

25 Q. And why is that particular process in place? Is

1 it --

2 MR. SMITH: Mr. Vokes. I see both people,
3 parties and other people in the audience, and I see Cheri
4 is really struggling to keep up with you.

5 THE WITNESS: Oh, I'm so sorry.

6 Q. You are talking kind of fast. And I understand
7 that. I understand you're probably nervous about
8 testifying.

9 A. No. I'm thinking in the top of my head, and that's
10 just how it comes out. Sorry.

11 At any rate, where was I?

12 Q. I think we've got a pretty good picture of the
13 idea of the testing and everything that you did at
14 Fort McMurray.

15 Tell me a little bit about the group that you were
16 working with in TransCanada. What group were you
17 assigned to? Because I've heard a lot about scoping and,
18 you know, certain people working, you know, different
19 areas of TransCanada. What was your -- what were you
20 working in?

21 A. Well, I went through several different iterations
22 while I was there. It's pretty much always the same
23 people, but it was always -- first it was TS and TM
24 I think it was, technical service and technical
25 management. I can't remember exactly what it was. It

1 was under Dan King.

2 And when I went and started I was hired by a manager
3 by the name of Curtis Parker and one of the integrity
4 people, Richard Kanya. Those are the two people who
5 actually hired me.

6 There was no welding engineer in my group, and so
7 when I started there was David Taylor was the only other
8 person in welding in my group at that point in time.

9 Q. How large of a group within TransCanada were you
10 assigned to?

11 A. Oh, jeez. I don't know. I don't think there was
12 20 people in it. Probably 16.

13 Q. Okay. And were all of the folks in that group
14 engineers?

15 A. No. No. There was engineer technologists and
16 engineers at that point in time.

17 Q. What's the difference between an engineer
18 technologist and an engineer?

19 A. Well, engineering technologists have a two-year
20 diploma so missing a lot of fundamental courses that
21 engineering has.

22 Q. Okay. So an engineer is essentially an engineering
23 technologist plus a whole lot more. Would that be fair?

24 A. Yes. And there's quite a different -- under a
25 permit practice and engineering is quite a bit different

1 than the scope for engineering technologist for practice.

2 Q. Okay. Now that's where you were assigned to when
3 you first started working at TransCanada.

4 A. That's correct.

5 Q. What other projects did you work on when you were
6 there at TransCanada?

7 A. Well --

8 Q. Let's just go through -- just give us a summary and
9 tell us which projects you were involved in.

10 A. There were so many projects that I worked on. And
11 the reason why is we operated as basically an engineering
12 consulting company within TransCanada. And so we were
13 available for about 200 project managers that would use
14 your services.

15 And so you would probably work on at least six
16 projects a week. And but you worked on some of the --
17 like I worked on Keystone. That was a really good one.
18 That's where I started taking over the automated
19 ultrasonic testing on my own was on Keystone.

20 Q. And that was the base Keystone project?

21 A. That was the base Keystone project.

22 Q. So let me back up a little bit, Mr. Vokes.

23 Now you mentioned that the group you were with was
24 kind of like the in-house sort of engineering firm.

25 A. That's correct.

1 Q. And you performed services for a lot of different
2 project managers.

3 A. That's correct.

4 Q. You were here -- you've been here, for instance,
5 during these proceedings, and you heard Ms. Kothari
6 testify, correct, about her role as a project manager?

7 A. That's correct.

8 Q. And you also heard her testify that she very heavily
9 apparently relied on a number of subject matter experts
10 when it came to various engineering disciplines in her
11 role as project manager.

12 A. That's correct. There's three in this room.

13 Q. Would you have been one of those subject matter
14 experts that various TransCanada project managers called
15 upon to help solve problems for you?

16 A. Correct.

17 Q. Okay. That's I think what we wanted to understand.
18 So let's focus a little more -- you said you worked on
19 any number of projects within that group.

20 What were some of the bigger ones besides the
21 Keystone project you worked on?

22 A. Guadalajara was a good one. Bison was a good one.
23 Cutbank and Kearl, two projects we ran at the same time.

24 Q. Did you do any work at all on Keystone XL?

25 A. Oh, yeah. I certainly did work on Keystone XL from

1 the prebuild section.

2 Q. Okay. Let's take one of the first ones that you
3 mentioned. This Cutbank project, where was that?

4 A. Cutbank project?

5 Q. Yes.

6 A. Oh, Cutbank project was in -- outside of Grand
7 Prairie, Alberta. And so what it was is I had two
8 projects actually, the Kearl and the Cutbank at the same
9 time. And they were small diameter lines, and normally
10 traditionally those lines are inspected with
11 radiography.

12 Q. Were those oil pipelines or gas pipelines?

13 A. Gas pipelines.

14 Q. Okay.

15 MR. WHITE: Mr. Smith, objection to testimony on
16 Cutbank and Kearl. I don't believe there's anything in
17 his prefiled that relates to either of those projects so
18 this can't possibly be foundational to his prefiled
19 testimony.

20 MR. MARTINEZ: Well, it certainly is
21 foundational. Because what we're trying to get a better
22 understanding of is Mr. Vokes's experience at
23 TransCanada, the various types of projects he worked on,
24 so you can get an understanding of what his expertise is
25 and some of the issues he found.

1 The other issue that we have actually raised in
2 the prefiled testimony was that Mr. Vokes in his opening
3 statement says that TransCanada's management essentially
4 presents a significant technical threat to the pipeline
5 safety.

6 We've made it very clear from the outset
7 throughout Mr. Vokes's prefiled testimony that a lot of
8 what he has to say has to deal with TransCanada's
9 management practices and how their management essentially
10 dealt with regulatory compliance issues. And this is
11 certainly fair game in terms of laying the foundation for
12 why he reached that conclusion.

13 MR. WHITE: If so, any of those details should
14 have been in the prefiled testimony so we would have had
15 a fair chance to respond to them. They left them out,
16 therefore, they shouldn't be putting them in at this
17 point in the hearing.

18 MR. MARTINEZ: Now I understand that TransCanada
19 doesn't like hearing about potential regulatory
20 violations.

21 MR. WHITE: Objection to all of this
22 characterization by counsel.

23 COMMISSIONER HANSON: Let's try to follow the
24 Capossela rule of not making derogatory remarks towards
25 each other.

1 MR. MARTINEZ: I apologize for that. I tend to
2 sometimes get a little more vituperate than I should, as
3 we probably figured out from my examination of other
4 witnesses.

5 (Pause)

6 COMMISSIONER HANSON: Mr. Martinez.

7 MR. MARTINEZ: Yes, Commissioner Hanson.

8 COMMISSIONER HANSON: Are you getting close to
9 establishing that your witness has knowledge and
10 experience pertaining to XL, or do you have a lot more to
11 go through?

12 MR. MARTINEZ: Well, I actually have --

13 COMMISSIONER HANSON: I think we understand he's
14 worked there and has a significant amount of knowledge.
15 And perhaps specific questions if you need to establish
16 more.

17 We don't want to take that right away from you,
18 but certainly I think you've established that he's -- has
19 a significant amount of knowledge and has worked --

20 MR. MARTINEZ: Yeah. I appreciate that. I
21 think, you know, one of the -- one of the sort of
22 Keystone themes that DRA wants to get across and I think
23 we've laid it out in a lot of the filings that we've made
24 in this case, whether it be our motions or the prefiled
25 testimony, is what we perceive as sort of an ongoing

1 pattern of regulatory noncompliance.

2 And the reason I was getting into a lot of these
3 particular project instances with Mr. Vokes is to
4 essentially try to make the case for you and demonstrate
5 for you that it is not just a one off with the base
6 Keystone line or other things but that we've got some
7 serious problems with the overall corporate culture when
8 it comes to regulatory compliance issues.

9 And I think we've stated before is what DRA's
10 perception is is that you've got a company that
11 essentially values profits over safety.

12 So from that basis that's, I think, why I'm
13 trying to go through and lay the foundation here for all
14 of those things by showing that we have an ongoing
15 pattern. That's the rationale, and that's what we're
16 trying to get to in Mr. Vokes's testimony.

17 MR. WHITE: So leaving aside the gratuitous
18 comments, I would suggest that that's what the prefiled
19 testimony was for, and we have rebuttal testimony that
20 responds point by point to those issues raised in
21 Mr. Vokes's direct testimony.

22 To the extent that we allow new assertions of
23 facts to come in on events or occurrences that were well
24 outside of the prefiled, we're prejudiced.

25 MR. MARTINEZ: Well, I don't think it's well

1 outside the prefiled. Like I said, TransCanada's clearly
2 been on notice that this was the overall direction of the
3 testimony that we were going to be presenting. And, you
4 know, I -- I understand they certainly want to try to
5 keep details out, but I think we're entitled under law to
6 try to build that foundation and show that -- make our
7 case that way. And that's how you do things in court --
8 or most regulatory proceedings.

9 (A short recess is taken)

10 MR. SMITH: Okay. Let's get back to order here.
11 If we could take our seats and prepare.

12 We're going to overrule the objection because
13 none of our orders specify that direct testimony would be
14 limited strictly to what's in the prefiled.

15 However, we would ask that it be kept relatively
16 brief in summary and nature.

17 MR. WHITE: So, Mr. Smith, just for
18 clarification then, when we put our rebuttal witnesses on
19 I presume we'll be afforded the same courtesy of
20 expanding on our rebuttal testimony to respond to new
21 issues --

22 MR. SMITH: Absolutely. Yes.

23 MR. MARTINEZ: And I certainly would have no
24 objection to that.

25 Now what I would object to is once -- you know,

1 if we do get into cross-examination, I presume Mr. White
2 will conduct the cross-examination is, you know, I will
3 strenuously object if he essentially engages in badgering
4 witness and things like that. Those are the things.

5 But we'll deal with that.

6 MR. WHITE: That would certainly be a first in
7 this proceeding, wouldn't it?

8 MR. SMITH: Okay. With that, please proceed.

9 MR. MARTINEZ: I'm trying to remember where we
10 were before we left off.

11 Q. List the different pipeline projects that you worked
12 on. You've indicated the one, the Cutbank project. That
13 was one.

14 You said you also worked on base Keystone; is that
15 correct?

16 A. That's correct.

17 Q. And you indicated -- did I hear you say you worked
18 on the Bison project as well?

19 A. Bison and Guadalajara. I think I said those ones.

20 Q. And what about the one that's actually referenced
21 here, the North Central Corridor Buffalo West Section?

22 A. Yes.

23 Q. That one too? Can you maybe just give us a ballpark
24 of -- ballpark number and just a guesstimate of how many
25 different pipeline projects you worked on while you were

1 at TransCanada?

2 A. I don't know. There has to be hundreds, I'd guess,
3 technically. Technically, I guess, that would be
4 hundreds. And the thing is is some of them are just
5 pipeline projects. There's some other projects. There's
6 pressure vessel.

7 Q. Okay. So you were essentially then on call as
8 needed as an engineer for any problems or issues that
9 might arise where TransCanada's project managers needed
10 engineering. Would that be correct?

11 A. That's correct.

12 Q. Now let's jump back to the Cutbank project that you
13 just referenced, and that's what I think sort of launched
14 this whole intermission.

15 What was the scope of your work on that project?
16 Because we've heard a lot about scopes, and so I want to
17 get an understanding of what you did.

18 A. That was an incredible project for scope because
19 the scope of that project changed so rapidly in such a
20 hurry.

21 And what had happened actually was we had never done
22 small diameter thin wall pipe. And we figured out how to
23 set up the equipment so that we could do quarter-inch
24 wall pipe so that was suitable for 20 and 24-inch pipe.

25 And so it was going to be a step. Because those are

1 normally done with radiography. There's a lot of
2 advantages to using automated ultrasonic testing.

3 There's a big right of way safety issue that comes
4 with it because radiography is lethal, and nobody can
5 drive down the right of way. There's the -- there's a
6 latent crack problem that we can deal with by using
7 automated ultrasonic testing. So there's many advantages
8 to it.

9 Q. So let me just interrupt you there. The scope of
10 your work on that project, once again, was it testing and
11 what TransCanada's referred to in these proceedings as
12 their integrity management process?

13 Would you say that was the scope of what you were
14 doing?

15 A. This was a construction project, not integrity
16 management.

17 Q. Okay.

18 A. Yes. And but the --

19 So what happened was we had set up these pieces of
20 equipment to do this task, and it was a bit of a novel
21 setup that we originally used for the first setup.

22 But the project manager hired -- the independent
23 project managers hired the same company, RTD, to do the
24 inspection. And initially it was first Crow (check) that
25 came in with the complaint that they couldn't weld the

1 procedures -- they were failing the welds with the
2 automated ultrasonic testing. So we --

3 Q. Okay. So let me stop you right there. So what I'm
4 understanding you're saying is that TransCanada had an
5 outside contractor that was doing the welding
6 inspections; is that correct?

7 A. That's correct.

8 Q. And why were you then -- or why were you as a member
9 of TransCanada's internal engineering staff called in to
10 come and check out the project?

11 A. Well, I helped set up that project actually. And so
12 I was involved very early on in the inspection designs.

13 Q. Okay.

14 A. Okay. So it was -- it was something that I had
15 pushed for and -- for implementation.

16 And so the first problem that we ran into was the
17 fact that we couldn't qualify the welders. So I remember
18 we went and -- I can't remember the inspector's name, but
19 I went and created a new welding procedure that would
20 actually work.

21 Q. What do you mean by qualify the welders?

22 A. Okay. It's expensive, rejecting welds. Welds are
23 very expensive and especially in northern projects
24 because not only do you have to pay a welder but you've
25 also got to keep his room and keep his truck.

1 There's a huge support staff for every welder out
2 there. It's kind of like an army, you know, one soldier,
3 10 support staff that sort of an idea.

4 The important thing you find with that is you want
5 to make sure that the welders are best prepared so that
6 the welders can generate good welds immediately. So what
7 you have to do is there's a procedure in the code for
8 making sure that a welder is qualified.

9 Even though they're ticketed welders, you have to
10 make sure that they're qualified. And but what most --

11 Q. Is that because it's a safety issue ultimately?

12 A. It's also an economics issue at the same time. You
13 want to make sure that they can actually weld good welds
14 because then you start repairing welds. And repairing
15 welds costs money, and contractors don't like to repair
16 welds because it comes out of their pocket.

17 Q. Okay. So go on. You were indicating that you were
18 involved in the setup process, and I believe you said you
19 were writing welding procedures?

20 A. Yes. So suddenly we were doing automated ultrasonic
21 testing, and we were also doing the first welding
22 procedure. And --

23 Q. Tell us a little bit about welding procedures. Why
24 do you have welding procedures on a pipeline construction
25 project?

1 A. We have to prove that we have -- meet a minimum
2 strength and toughness level on welds. And they have to
3 be -- we have to know with a high degree of certainty
4 that they're capable of holding the pressure.

5 When we qualify a welding procedure we have a
6 minimum level of defect in the welds. And when we
7 qualify the welding procedure we take parameters that any
8 welder should be able to replicate the weld. So the
9 theory being that any welder that follows the welding
10 procedure will make good welds.

11 Q. And why is that? Is that to speed up, for instance,
12 the process of laying the pipe?

13 A. It isn't a manufacturing process. It's a quality
14 management.

15 Q. Okay. So you went out to the Cutbank project, and
16 you were involved in the welding procedures. Were there
17 particular problems that occurred when you went out to
18 look at this project later?

19 A. What happened was is the National Energy Board sent
20 us a letter saying that nine welding procedures never met
21 the minimum qualification.

22 Q. Okay. What's the National Energy Board?

23 A. The National Energy Board is the equivalent of PHMSA
24 in Canada. They actually have a commercial component
25 like FERC as well.

1 Q. Okay. So that's why you went back out to the
2 Cutbank project then because the National Energy Board
3 said that there were some issues with the welding
4 procedures; is that correct?

5 A. We were actually doing this work in Calgary. We had
6 set the automated ultrasonic system up in Edmonton, and
7 it went to site. So I was still in Calgary when this
8 started happening.

9 So, at any rate, so me and Chris Penniston (check)
10 were involved in this initially.

11 All of these welding procedures in question were
12 signed off by Robert Lazor who's sitting in this room at
13 the end of the table.

14 Q. The very end, the gentleman in the short-sleeved
15 shirt with the stripes on it? Blue?

16 A. That's correct.

17 Q. Oh, okay.

18 Who wrote this original welding procedures?

19 A. The original welding procedures were written around
20 the year 2000. I'm not sure who wrote the original
21 welding procedures, but there was about 130 welds in the
22 welding procedures in the core group.

23 And when me and Chris Penniston started going
24 through them we found some very creative things were
25 created in those welding procedures.

1 Q. What do you mean by "creative things"?

2 A. In 2008 I had actually -- when I stopped doing
3 welding work and started working on automated ultrasonic
4 testing I actually sent Dave Taylor and Robert Lazor an
5 e-mail outlining the fact that some of the welding
6 procedures I had encountered never met the code or we
7 didn't have records for those welding procedures and we
8 were required to maintain records for the life of the
9 pipeline. So we were deficient in those areas already.

10 And those -- so Robert went and recertified those
11 welding procedures in 2008 with a new hire Abicek
12 [phonetic]. I can never say his last name, but, at any
13 rate, Abicek who came into our group.

14 Q. So let me stop you right there.

15 So am I understanding correctly what you're saying?
16 You're saying that you found a number of deficiencies in
17 the various welding procedures; is that correct?

18 A. That's correct.

19 Q. And that you notified Mr. Lazor as well -- did you
20 notify other folks as well within TransCanada?

21 A. Mr. Taylor and Mr. Lazor.

22 Q. Okay. And you notified them of those defects; is
23 that correct?

24 A. That's correct.

25 Q. And was it just your testimony now that with

1 knowledge of those defects they went ahead and
2 recertified all of those same welding procedures that
3 contained those defects again? Is that correct?

4 A. Well, surprisingly, I had even --

5 Q. Hold on. Was that correct, Mr. Vokes?

6 A. Yes.

7 Q. Okay. So you were about to say surprisingly. What
8 were you surprised about?

9 A. I had actually modified some of the welding
10 procedures for small diameter pipe. And these certified
11 welding procedures were actually the old versions, not
12 the new version I had done.

13 Q. Okay. Were you ever given an explanation why -- by
14 either from Mr. Lazor or Mr. Taylor as to why those
15 defective welding procedures were recertified?

16 A. No. Mr. Taylor went and sent me and Chris Penniston
17 an e-mail telling us to immediately work on welding
18 procedures.

19 Q. Oh. So essentially were we saying start all over
20 again?

21 A. That's essentially what we did. We went and took a
22 spreadsheet that I had created and that I was using to
23 fix the welding procedure for the start of the automated
24 ultrasonic testing, and we went and used that to start
25 comparing what was good and what was bad. And all the

1 welding procedures Chris actually went and extrapolated
2 it into a very nice system.

3 Q. How does that relate to the Cutbank project?

4 A. Well, they were the same inspection contractor.
5 They were both affected at the same time. So the Cutbank
6 project was the one the National Energy Board actually
7 issued the e-mail for the welding procedures that
8 didn't -- that didn't work.

9 Q. Okay. And so are you telling us then that
10 essentially TransCanada was laying pipe on that
11 particular project using defective welding procedures or
12 deficient welding procedures?

13 A. TransCanada for years had been laying pipe using
14 deficient welding procedures. Deficient welding
15 procedures were issued for that project, but we had to
16 update all the welding procedures.

17 Q. Okay. And were you then involved in making all of
18 those updates?

19 A. Yes. Yes. There was me, Chris Penniston and
20 Rick Ostram.

21 Q. Okay. What are the potential risks that are posed
22 to a pipeline in the event it goes into the ground and
23 you have potentially defective -- and it's been put into
24 the ground using deficient welding procedures?

25 A. I think the Otterburne, Manitoba explosion is a

1 classic example. And --

2 Q. Why is that particular one -- you said it was an
3 explosion. Why is that a classic example?

4 A. A latent weld defect waited years to reveal itself.

5 Q. And what happened with that particular explosion?

6 A. The pipe burned for 12 hours.

7 Q. Were any lives lost?

8 A. No.

9 Q. I think that's all I'm going to ask you about the
10 Cutbank project, but let's shift gears a little bit and
11 talk about the base Keystone project that runs -- you
12 know, a portion of it runs through the eastern portion of
13 South Dakota.

14 What was your scope of work on base Keystone?

15 A. I had just gotten -- I was just getting or just
16 gotten my professional engineer. And that was the first
17 AUT project that I was doing mostly by myself.

18 Q. Can you stop right there. You used an acronym.

19 A. First automated ultrasonic testing project I was
20 doing by myself.

21 Q. AUT. So that's automated ultrasonic testing?

22 A. Yeah. And we went and did a section out in Manitoba
23 that went from the main line down to the Manitoba border
24 to hook up with Keystone in North Dakota.

25 And what was -- what my job there was, was I was

1 just -- Dave had already previously set the equipment up.
2 My job was to do audit and keep an eye on the
3 technicians, make sure that the technicians were doing
4 their calibrations.

5 Q. Okay. When you said Dave set the equipment up who
6 are you referring to?

7 A. Dave Hodgkinson, the grandfather of automated
8 ultrasonic testing.

9 Q. Why do you call him that?

10 A. Because he's a genius.

11 Q. Was he a TransCanada employee?

12 A. He was originally a Nova Gas technology. He was --
13 most of the key ideas that are in automated ultrasonic
14 testing are his.

15 Q. So you worked on the segment then, and it involved,
16 once again, testing welding procedures. Would that be a
17 fair statement for that segment of Keystone I?

18 A. That's correct.

19 Q. Okay. Roughly what was the time frame where you --
20 when you worked on that project?

21 A. The first one was from June 2009 to I think it was
22 December 2009. I can't remember. I think it was -- it
23 was late in the year. It was --

24 Q. Was it a period of several months, though?

25 A. Yes. There was -- there was -- it tapered off after

1 a while, and there was less data coming in after a while.
2 As the main line construction stops then you start
3 getting less and less data as we move to tie-ins and then
4 final tie-ins.

5 Q. What do you mean by tie-ins? You're going to have
6 to explain a lot of this stuff.

7 A. Well, when we manufacture pipelines what we do is we
8 pick -- the construction contractor puts together easy to
9 handle links of pipe. Because you can't weld it all
10 together at the same time.

11 So they put pipe that are easy to handle. You put
12 it in the ditch, and then you actually join two pipes in
13 the ditch. So you make one weld in the ditch, and that
14 makes a longer pipe. And you keep repeating until you
15 get to the length that you desire.

16 Q. Okay. And you were then involved, is it fair to
17 say, in once again testing the integrity of the welds
18 along that segment of the Keystone I Pipeline; correct?

19 A. That's correct.

20 Q. Okay. Did you discover any particular problems from
21 your perspective when you were -- let me finish the
22 question.

23 What types of problems, if any, did you uncover
24 during your work on the base Keystone I segment
25 throughout Canada?

1 A. There was actually a real learning experience that
2 came from the next section that came from Hardisty,
3 Alberta down to the Princess compressor station.

4 And to give you a little background on it, Keystone
5 had put an order in to work on steel mills in Portland to
6 make a bunch of the Keystone pipe. And the pipe was
7 cracked. And so we removed the order.

8 And this is starting -- this is becoming a
9 scheduling problem now. So they took all the steel, and
10 they moved it to another Oregon steel mill's plant in
11 Camrose, Alberta. And the plant in Portland was a spiral
12 mill.

13 Q. What is a spiral mill?

14 A. A spiral mill would take a continuous sheet of
15 plate, and we bend it into a coil. So the one that looks
16 like it has all the little lines across it, that's the
17 spiral pipe. And the plant in Camrose is a -- makes long
18 seam pipe.

19 Q. What is a long seam pipe?

20 A. Long seam pipe you can actually see one long weld
21 seam right in one area of the hoop location along the
22 pipe. That's what you're looking for there.

23 Q. So are those then just a couple of different ways
24 that the pipes themselves are actually made?

25 A. Yeah. I think there's probably about six basic

1 methods of making a pipe, yeah.

2 Q. But on Keystone I which one -- which particular
3 method was ordered from the steel mill?

4 A. Well, on the Hardisty -- the original order at
5 Portland would have been a spiral pipe. And then the one
6 that was done at Cam pipe was actually -- I can't
7 remember what the exact process that they used there is,
8 but it -- it has a long seam on it but it's an expanded
9 pipe but it's also prone to another problem called
10 peaking. And --

11 Q. What is -- let me ask you this before we talk about
12 this peaking that you've mentioned.

13 But is it common for pipeline companies to, let's
14 say, mix and match the various, you know, sort of
15 different or steel -- or pipe that's been manufactured in
16 different ways?

17 A. Well, there's no problem with it as long as you're
18 not -- as long as you're not welding with gas metal arc
19 welding and using ACAs, you can usually get away with
20 it.

21 Q. What is gas arc welding?

22 A. Gas metal arc welding? It's an automated process --
23 I shouldn't say a automated process. It's mechanized
24 because you still rely on your highly skilled welder.

25 And what it is is it is a sufficient way to fill in

1 the groves so to increase your rate of production of pipe
2 and increase your quality of pipe.

3 Q. Okay. And you used another acronym. Was it AC?

4 A. Oh, ACA.

5 Q. What is that?

6 A. Okay. One of the problems we have with gas metal
7 arc welding is the -- it has long lack of fusion defects.
8 And they went and did a lot of research on that, and they
9 discovered the lack of fusion defects because -- in gas
10 metal arc welding they're a controlled height.

11 Q. You're giving us a lot of information. What are
12 fusion defects?

13 A. The metal literally is not touching one side to the
14 other.

15 Q. Okay.

16 A. It's a discontinuity.

17 Q. And so does that then form a gap where you may have
18 a potential pipeline leak?

19 A. Yeah. Correct.

20 Q. Okay.

21 A. So we have to -- we have to control those. So the
22 code allows you, for instance, in Canada 16 millimeters
23 on the inside, which is pretty much as big as your
24 finger. And when you're using ACAs we can have
25 controlled pipe defects in controlled locations up to

1 10 percent of the pipe diameter.

2 So there's a huge productivity to be gained by using
3 gas metal arc welding. Plus it's a better welding. So
4 these are why you want to implement this technology.

5 Q. And this is what you were partly doing was helping
6 set up -- those are the processes for that on Keystone I?

7 A. No. I wasn't involved in the welding process in
8 Keystone I. I was only involved in the inspection
9 process of Keystone I.

10 I was not involved in the materials, production,
11 ordering, or anything to do with that in Keystone I. I
12 was just the recipient of the materials because the
13 materials affected me and the welding affected me.

14 MR. WHITE: So at the risk of trying the
15 Commission's patience, I think at some point this alleged
16 foundational testimony becomes basically a rewrite of the
17 witness's direct testimony.

18 He filed 4 and a half pages of testimony. He's
19 now been on the stand for an hour. I don't know at what
20 point we are in Mr. Martinez's presentation, but it's
21 segueing into what's really sandbagging at this point.

22 MR. MARTINEZ: I would totally disagree with
23 that characterization. I'm certainly entitled to ask
24 Mr. Vokes what he knows. And, frankly, I think it's
25 important not just for you as Commissioners but for the

1 public, because this is a public record, to understand
2 the processes by which pipelines are put together, which
3 Mr. Vokes is certainly knowledgeable about. But also,
4 more importantly, how -- what the various risk factors
5 are that can cause pipeline failures.

6 Now what I will tell you, just to give you a
7 roadmap, I'm not going to go into -- Mr. Vokes has
8 testified that he worked on hundreds of projects. I'm
9 not going to get into hundreds of projects because,
10 believe me, I'd love to get home.

11 I've got a deposition that I've got to take in
12 another case next Friday. And I don't want to be here
13 for more than two months, as much as I've enjoyed being
14 in Pierre.

15 So just to give you kind of a little bit of a
16 roadmap, I'm asking Mr. Vokes about the base Keystone
17 project, and I really only have two more projects that
18 I'm going to ask him about. And those projects were the
19 Bison Project which he worked on and then KXL in
20 specific.

21 And it's really those things that we're going to
22 focus on. Because, you're right, if we're going to ask
23 him about every single thing he worked on while he was at
24 TransCanada, we'd be here for days.

25 MR. WHITE: So both of those projects are

1 covered in the prefiled. If you had more to say about
2 those projects, they should have been in the prefiled
3 testimony so we could have read them and responded to
4 them and not dropped them in on Saturday night on the 6th
5 day of the hearing.

6 MR. MARTINEZ: We've already gone over this same
7 argument before.

8 COMMISSIONER HANSON: Excuse me, Mr. Martinez.
9 You did state about 25 minutes ago that you were getting
10 real close. And I've got a master's degree just from
11 listening here, and I don't need a doctorate.

12 So I'd really appreciate -- can you be succinct?
13 I mean, we understand -- he does not have to describe
14 every little detail of how everything is done. But we do
15 appreciate it, but there's a time constraint.

16 MR. MARTINEZ: And I think just by my going
17 through maybe all of that level of detail --

18 CHAIRMAN NELSON: If I could just make -- and I
19 apologize for interrupting, but I think it's important to
20 add to what Commissioner Hanson has said.

21 If every detail was important to you, it could
22 have been put in the prefiled testimony. It was your
23 all's choice not to.

24 MR. SMITH: So I guess we're -- we're not --
25 we're overruling, but we are giving some instructions to

1 move along here and let's -- okay.

2 MR. MARTINEZ: Okay. I tell you what. Maybe it
3 will help if I kind of give you just sort of a brief
4 maybe summary outline of where we're going to go and
5 maybe just focus on sort of the segment of each.

6 And I think what I want to do for these projects
7 is first to briefly ask Mr. Vokes what the scope of his
8 work was on the project, what he found when he went out
9 in the field, what problems he may have discovered,
10 whether or not he reported those to management, what the
11 management's response was, and then what the potential
12 risks were as a result of those problems.

13 And I think, you know, I'll try to succinctly,
14 you know, keep it to that framework if that helps.

15 MR. WHITE: Each and every one of those items
16 could have and should have been provided in the prefiled
17 testimony. There's no reason to be putting them in at
18 this point in the process.

19 MR. MARTINEZ: Under the South Dakota rules I am
20 certainly entitled to engage in a full and fair direct
21 examination of Mr. Vokes as to these matters.

22 MR. SMITH: That's true. However, our rules do
23 afford the Commission the right to require that documents
24 be done through the prefiled process.

25 And so where are we at on this thing,

1 Commissioners?

2 COMMISSIONER HANSON: At the edge of my seat.

3 MR. HARTER: This is John Harter. I'd like to
4 just add one small thing.

5 MR. SMITH: We're going to overrule, but again
6 we'd like it to be done as briefly and get to the -- get
7 to the conclusory points as quick as possible if you
8 could.

9 MR. MARTINEZ: I will do my best to do that.
10 And, quite honestly, a lot of the material that I've
11 asked Mr. Vokes about here on the front end I sort of
12 felt was important to allow you to have a better
13 understanding of essentially how all of this stuff works.

14 And I understand a master's is fine, maybe not a
15 Ph.D. I think, you know, I've been sort of drinking at
16 the fire hose here when it comes to trying to get all of
17 this information as well, and there's a heck of a lot,
18 you know, of detail that can go into it.

19 But I will try to dispense with as much of that
20 as possible because I think we've gotten, I think, a
21 pretty good overview of the processes.

22 MR. SMITH: I think so.

23 MR. MARTINEZ: It's actually a quarter after
24 5:00. I don't know how late you want to go.

25 MR. SMITH: We were thinking of 5:30.

1 Please proceed.

2 Q. (BY MR. MARTINEZ) So, Mr. Vokes, as indicated, the
3 base Keystone project, you've already told us, you know,
4 what you were working on there.

5 Now when you actually started working what actually
6 did you find when you went out in the field on
7 Keystone I?

8 A. Okay. So this is where the AUT technicians started
9 to complain when we were welding, and the welding
10 contractor was complaining. What was happening was the
11 AUT probes were trying to lift off the pipe.

12 So what happens is the long seams are offset so the
13 peaks were offset. And so it's exceedingly difficult for
14 a welding contractor to generate good welds, and it's
15 even more difficult for the AUT contractor to generate a
16 good inspection when we have these problems.

17 Q. The problems were what with the peaked pipe?

18 A. Yeah. The peaked pipe. The code is specific about
19 the requirements on peaking on pipe. And so what a peak
20 is is we assume that pipe is round. And when we -- the
21 TransCanada specification requires that the pipe is sized
22 so that the pipe, when you put two pipes together it's
23 the same diameter across. Right?

24 So when you have a peak it's like a tent in it so
25 it's not round. So you end up with a horrible little

1 welding problem in the middle of your quality management
2 system.

3 So, of course, it became a problem instantly, and it
4 became known that we weren't supposed to say anything
5 because the pipe technically had no problem with code
6 compliance.

7 Q. So somebody told you not to say anything about this
8 problem?

9 A. That's correct.

10 Q. Who told you that?

11 A. James Ferguson said we weren't supposed to talk to
12 the contractor about this.

13 Q. Who was Mr. Ferguson?

14 A. Mr. Ferguson was my peer at TransCanada. Because
15 the pipe peaking was a known problem.

16 Q. Where would that known problem have -- or where
17 would that problem have originated? Was that with a
18 manufacturer?

19 A. That problem is a manufacturing problem. That is
20 correct. But the inspection staff should have never let
21 that -- made it to the coating process.

22 Q. Okay. So you get in the field, and there is peaked
23 pipe on Keystone I. What was being done with it? Was it
24 being used?

25 A. Well, you have to use it because you now have a

1 schedule problem.

2 Q. So and why does that create a scheduling problem?

3 A. Well, you can't go back and get all brand new pipe
4 again because you failed your inspection.

5 Q. Does it just take too long to get new pipe?

6 A. That's correct. So you -- if you're operating on
7 risk, then what you do is you say we can live with the
8 risk, and you weld it into the pipeline.

9 Q. Is that what TransCanada did on Keystone I? They
10 just said we'll live with the risk?

11 A. There's plenty of peaked pipe.

12 Q. Okay. Now you said that was a problem for the
13 welders. Why is trying to connect peaked pipe a problem
14 for the welders?

15 A. What ends up happening is if you don't get the peaks
16 pushed out with enough pressure -- we use an internal
17 clamp, and it pushes out. And the internal clamp doesn't
18 necessarily get the wall thickness even.

19 And the code requires that you have a certain amount
20 of high low, which is an intentional mismatch of the
21 pipe. And yeah. It's -- you don't get a complete weld
22 all the way through.

23 Q. Okay. And, once again, did you report this issue to
24 TransCanada management?

25 A. Everybody knew.

1 Q. Well, what do you mean by everybody?

2 A. All the inspection staff knew what was going on.

3 Q. And was that reported to TransCanada management?

4 A. I did not report it to TransCanada management. I
5 did my job.

6 Q. Do you have knowledge of that information being
7 reported to TransCanada management by other folks in your
8 department?

9 A. Yes. I remember it being discussed in their group.

10 Q. What was management's response?

11 A. We got the pipeline into service ahead of schedule
12 and under cost. We did a very good job, actually very
13 good pipe, other than the fact of the peaking.

14 Q. So what problems does peaking result in once the
15 pipe is in the ground?

16 A. Interesting thing is it has a geometry problem, and
17 it actually can apply stress to the welds, to the long
18 seam welds. And long seam welds are more critical than
19 the girth welds. Twice the stress on a hoop weld than
20 there is on a girth weld.

21 Q. So does that then pose a greater risk that a
22 particular segment of pipe may then fail or --

23 A. It could fatigue.

24 Q. Could fatigue over time. What do you mean by
25 fatigue when you reference that?

1 A. Fatigue is intentional cycling of a piece of steel.
2 And running it through positive-negative stress cycles,
3 which degrades the microstructure.

4 Q. And what can that ultimately result in?

5 A. A leak.

6 Q. And TransCanada you said chose to put that pipe in
7 the ground on the base Keystone segment in Canada;
8 correct?

9 A. Well, you've got to admit we didn't buy the cracked
10 pipe.

11 Q. Well, I guess that's a little more responsible,
12 wouldn't you say?

13 A. I was impressed.

14 Q. Okay. Let's move from the base Keystone project to
15 the Bison. And I think we can go through that pretty
16 quick.

17 What was the scope of work that you had on the Bison
18 Project?

19 A. We were asked for some opinions on the -- on the --
20 not the front end design but the front end inspection
21 designs. And we were trying to promote doing a quality
22 job so we thought we'd show people what kind of a
23 beautiful pipeline we could build here in the
24 United States.

25 And so we went and convinced the project that we

1 would do 100 percent automated ultrasonic testing which
2 had never been done in the United States like all the way
3 through so it was actually really shaping up to be a nice
4 project.

5 And then what happened was is the quality manager
6 decided that he was going to handle the outsourced
7 inspection all by himself.

8 Q. What was the quality manager on the Bison Project?

9 A. Oh, what was his name?

10 Q. But he was a TransCanada employee; correct?

11 A. No. He was a contractor.

12 Q. Contractor.

13 A. Most of these pipeline staff are contractors. Very
14 few of them are direct hires, except for senior project
15 managers and that sort of thing like that.

16 Q. Oh, so TransCanada does a lot of outsourcing then of
17 the various functions it has when it builds a pipeline?

18 A. That's correct.

19 Q. Okay. So let me jump back then. What specifically
20 was your role on the Bison Project? What were you there
21 to do?

22 A. Well, for a few months I did very little with them.
23 I went and gave them some designs for automated
24 ultrasonic testing calibration blocks that they could
25 approximate. And so they went and made and qualified the

1 blocks with a -- with an external contractor.

2 And that external contractor, they went and sent the
3 scans to me, but I never opened the RTD system. The only
4 thing I could tell is we went and have -- the right
5 number of holes for the calibration blocks but there was
6 some other things that were wrong.

7 Q. You're getting pretty deep into the weeds there on
8 the technical detail. Just try to stay a little more
9 high level.

10 A. So we never really heard from the project again
11 until October when --

12 Q. October of what year?

13 A. 2010. Until we went and got the e-mail that the
14 project was in deep trouble, and we went and heard that
15 the quality management team had some dismissals. We
16 never did find out what the nature of the dismissals was,
17 but I was required to --

18 Q. Okay. Stop right there. You said you received some
19 sort of communication that the project was in deep
20 trouble.

21 A. That's correct.

22 Q. What do you mean by that?

23 A. He said deep trouble in the e-mail, if I remember
24 rightly.

25 Q. Okay. Did you find out what the nature of that deep

1 trouble was?

2 A. I certainly did when I went and got to site.

3 Q. What did you find when you got to site?

4 A. I went and walked out the door to the airport, and I
5 was told my job was to fire the AT contractor.

6 Q. Who told you that?

7 A. Claude Albere [phonetic].

8 Q. Okay. Did you fire that contractor?

9 A. No. Because that would be a huge risk for
10 TransCanada to fire a contractor like that.

11 Q. Okay. So you got at the airport. You were told
12 you've got to fire these folks. Ultimately, a decision
13 was made not to fire them.

14 What happened next when you actually went out to
15 site, and what exactly did you find that was the problem?
16 Can we maybe try to be real succinct here for the
17 Commissioners?

18 A. The welding was shocking when we drove on the site.
19 I had never seen welds humped up that much -- the
20 technical term is not much reinforcement on the welds.

21 And there's recommended guidelines in the code about
22 how high that reinforcement should be, and we were well
23 beyond that level of reinforcement.

24 Q. I mean, I guess to an untrained person if you have
25 extra reinforcement on a weld, it sounds like that's a

1 good thing.

2 A. If you're using radiography to inspect a pipeline
3 and you're using plaque (check) type penetrameters, this
4 is a classic welder trick. They put on extra
5 reinforcement at the cap so that you can't see the root.

6 We had got the project to use the new version of the
7 API 20th -- or 1104, 20th Edition, which only allowed
8 wire penetrameters to be used for radiography quality.

9 Q. So why was this a problem, Mr. Vokes?

10 A. When you put excessive reinforcement on the caps you
11 can no longer use the wire penetrameters.

12 Q. So are you telling us then essentially that that
13 posed a problem for you when you were actually trying to
14 inspect the welds and check their integrity; is that
15 correct?

16 A. Well, it was a different problem. The reason why is
17 because we were planning on using automated ultrasonic
18 testing for the welds. And what the welders were trying
19 to force us to do was to go to radiography, but what they
20 had done was by doing all of that excessive reinforcement
21 we had to stay using automated ultrasonic testing.

22 We had hundreds and hundreds of welds completed on
23 the pipeline. The ditch was dug and open, and the pipe
24 was sitting uncoated on top of the ditch waiting to go
25 into the ditch but couldn't go in because they couldn't

1 accept the welds.

2 Q. What other problems did you find there on the site?

3 A. Well, we had some problems with the automated
4 ultrasonic testing. There was no doubt about that. The
5 calibrations were really hard for the technician to set
6 up the equipment.

7 He was having a lot of problems getting the
8 equipment to run. He was getting valid scans, but the --
9 but getting the -- the -- I was talking earlier about how
10 pipe lining is a manufacturing process, and it's designed
11 to run a three-minute cycle time. So every operation you
12 want to be about a three-minute cycle time.

13 And when you --

14 Q. Can you stop there, Mr. Vokes.

15 A. Sure.

16 Q. I understand that we've got a tremendous amount of
17 information and knowledge that you have, but let's try to
18 keep it kind of focused on a high level here.

19 There were some problems that you found in terms of
20 your abilities as one of TransCanada's in-house engineers
21 to actually check on and make sure that the welding was
22 being done correctly.

23 Is that a fair statement?

24 A. My job there was to make sure that the automated
25 ultrasonic testing was being done correctly.

1 Q. And that's part of the inspection process; is that
2 correct?

3 A. That's correct, yes.

4 Q. Okay. And so did you find out that there were
5 problems with that that impeded the inspection process?

6 A. That's correct. And they were problems that we
7 could deal with.

8 Q. Okay. So what did you do in terms of reporting this
9 to TransCanada's management?

10 A. There were several letters and e-mails that had gone
11 to the project at this point in time.

12 Q. The project manager, do you mean?

13 A. Actually I didn't realize it was, but there was
14 actually a director of pipeline -- what the heck was his
15 name?

16 Q. Doesn't matter. Ultimately you did report the
17 problems that you were encountering to the senior project
18 managers.

19 A. Oh, absolutely.

20 Q. Okay. And what was the response then that you
21 obtained from TransCanada's management?

22 A. Well, it seemed like they wanted to work with us to
23 solve the problems, but then they went and asked us to go
24 to another spread we had never been to. We had heard a
25 rumor about the auditor had no idea what he was doing.

1 Q. What do you mean by the auditor? Who is the auditor
2 you're referring to?

3 A. The automated ultrasonic testing auditor. And, in
4 fact, it turns out that the auditor was actually a
5 radiography technician who had no idea what he was
6 looking at in the scans.

7 Q. So you were called there to essentially help solve
8 that problem; correct?

9 A. Well, they asked us to go see if this guy knew what
10 he was doing, and he did not know what he was doing. And
11 what had happened was even more disturbing because the
12 AUT company's supervisor, to deal with the problems he
13 was having he cut the gate short, which means that the
14 pulse echo beams weren't reaching all the way to the root
15 of the weld. And so what it went and did was gave him an
16 artificially low repair rate.

17 Q. Okay. And what exactly -- what was the effect of
18 that then on the pipeline that's being laid in the
19 ground?

20 A. There was about 12 or 1,300 welds that never
21 actually had a code inspection. So that means the
22 code -- we could argue that, you know, like that it --
23 that it met the -- that it was safe to operate, but truly
24 did we actually meet the intent of the code?

25 No. We did not actually meet the intent of the code

1 because we never fully examined the root of the weld.

2 Q. And you reported this problem to project managers?

3 A. That's correct.

4 Q. Okay. Did TransCanada then -- after knowing that
5 there was a problem did they go ahead and lay the pipe in
6 the ground anyway?

7 A. That pipe was already in the ground.

8 Q. Oh. Did they do anything to go back, dig it up, and
9 fix it?

10 A. Well, what went and happened was an argument about
11 whether or not there was a problem with the automated
12 ultrasonic testing.

13 So, once again, we engaged the industry expert
14 Dave Hodgkinson. And Dave Hodgkinson went and told the
15 project that they needed to report to PHMSA, and RTE
16 needed to take responsibility for their weld inspection.

17 Q. Do you know then if a report was actually made to
18 PHMSA?

19 A. No. But the letter went and said nobody from
20 TransCanada should accept these welds.

21 Q. So nobody should accept these welds. Did they
22 accept them in the end?

23 A. We went and did the quick dig up of what was
24 supposed to be a worst-case weld, and we reexamined it
25 and found it was fine and buried it.

1 Q. Oh. So did they do any additional sampling to see
2 if there were any other defects along that line --

3 A. No.

4 Q. -- where there were inadequate inspections?

5 A. No.

6 Q. Okay. So ultimately the Bison Project was built and
7 put in the ground; correct?

8 A. That's correct.

9 Q. And it went operational?

10 A. It went operational.

11 Q. Did problems arise with the Bison Project subsequent
12 to it becoming operational?

13 A. Yes. The problems that arose after that was there
14 was dents associated with welds on the Bison Project.
15 And PHMSA was very concerned about the dents in the
16 welds. And we were asked if we could determine whether
17 or not the dents were actually associated with the welds.

18 And so we looked at a series of the welds on PHMSA's
19 behalf and what we went and looked at was we went and
20 looked at the long seam lines to see if the long seam
21 lines -- because you could see -- with the automated
22 ultrasonic testing a lot of times you can see it bump
23 over the long seams and so you can actually tell relative
24 where the dent is and where the seam is.

25 So we wrote three rejection letters to the project

1 saying that we could not support their case to tell PHMSA
2 that it was okay to operate those dents.

3 Q. Okay. So what happened next? What did TransCanada
4 report back to PHMSA then?

5 A. I don't know what TransCanada supported -- reported
6 back to PHMSA. Only thing I knew was my manager went and
7 corralled me a couple of times to tell me how
8 disappointed he was with my performance.

9 Q. What discussions did you have with him about your
10 performance?

11 A. There was oral discussions about he couldn't believe
12 that it was a member of his team that was creating the
13 project trouble.

14 Q. And what do you mean by "creating the project
15 trouble"?

16 A. Well, we weren't helping the project out.

17 Q. What did he mean by that?

18 A. What did he mean by that? He wanted the -- he
19 wanted us to slip it on by, like the rest of everything
20 was done. Just participate.

21 Q. Participate. And was it from your perspective then
22 ignoring the requirements of the code --

23 A. Ignoring --

24 Q. -- and putting pipeline -- hold on. Let me ask the
25 question before you answer it.

1 So was it your understanding then that you were
2 being told or your manager said I'm disappointed in you
3 because you're not going along with us and -- by going
4 ahead and just putting all of this pipe into the ground
5 when we have a pretty good idea that it's not up to
6 code?

7 MR. WHITE: Objection to the form of the
8 question. If Mr. Martinez could ask a question rather
9 than provide an answer, that would be helpful.

10 MR. SMITH: I think on direct that's pretty
11 leading.

12 MR. MARTINEZ: Pretty leading?

13 MR. SMITH: Uh-huh. I'm going to sustain.

14 MR. MARTINEZ: Fair enough. I'll go ahead and
15 reask that in a different way and rephrase.

16 Q. So you've testified that your manager came and said
17 he had performance issues with you; correct?

18 A. That's correct.

19 Q. Okay. And what was your understanding of the
20 performance issue?

21 A. The performance issue wasn't technically based. It
22 was behavior based because I would not agree with his
23 interpretation of how pipeline should be built.

24 Q. Okay. And in your -- from your perspective did you
25 believe that the pipeline was being constructed in a way

1 that did not meet code?

2 A. Correct. And it was well-known that I objected to
3 it because Mr. Taylor liked to give me heck because he
4 didn't like the fact that I discussed all the projects
5 with people and what was going on.

6 The day that Bison blew up Richard Kanya sent me an
7 e-mail right away and said, Evan, Bison blew up tonight.
8 So everybody knew that I had a problem.

9 Q. Okay. So based on what you've just told us, is it
10 your understanding that TransCanada effectively wished
11 that you would ignore regulatory violations?

12 MR. WHITE: Same objection.

13 MR. MARTINEZ: I'm asking what Mr. Vokes
14 believes based on the interactions that he's had. I'm
15 certainly entitled to ask him that.

16 MR. SMITH: Pardon me? Overruled.

17 Q. Please answer the question.

18 A. I think that -- can I answer with an example?

19 Q. Just please answer the question.

20 A. We had a team meeting with Jim --

21 Q. Hold on, Mr. Vokes.

22 What I asked you was is it your belief and
23 understanding based on the communications and
24 interactions that you had with your fellow employees at
25 TransCanada that you were basically being asked to ignore

1 regulatory violations in order to get the pipeline in the
2 ground?

3 MR. WHITE: The witness was asked to answer the
4 question. Now Mr. Martinez is reformulating the answer
5 in the form that he wants and asking the witness to say
6 yes or no to it. That's leading.

7 MR. MARTINEZ: I've laid a foundation for that
8 question.

9 A. Senior management at TransCanada --

10 MR. WHITE: There's an objection pending.

11 MR. MARTINEZ: An objection's pending,
12 Mr. Vokes. Please wait until --

13 COMMISSIONER HANSON: It's sustained. You're
14 leading.

15 MR. SMITH: Okay. It's -- although, like you
16 said, you came awful close to having a foundation, I
17 think, for that.

18 But we'll sustain it, and maybe you can just do
19 it through -- without the conclusion in there.

20 MR. MARTINEZ: Well, we're ultimately getting to
21 the conclusion.

22 Q. Were you asked by TransCanada management to ignore
23 regulatory violations?

24 A. More than once. Many times.

25 Q. Now you've testified that at some point, in using

1 your words, the Bison Pipeline blew up.

2 A. Correct.

3 Q. Do you have any understanding of how that occurred
4 or why it occurred?

5 A. Yes. Richard Kanya went and showed me the pictures.
6 And you can clearly see that what happened was is that
7 the pipe was struck with a shading bucket, which uses a
8 smooth piece of steel, four times in one mile.

9 Q. Is that something that may have been uncovered with
10 thorough inspections?

11 A. The interesting thing is we don't generally pay
12 contractors unless we have an inspector present.

13 Q. Do you know if an inspector was present when those
14 segments of pipe were being laid?

15 A. Only TransCanada could produce those documents.

16 MR. MARTINEZ: I'm probably concluded with a
17 major segment here. Should we kind of go ahead and
18 continue to the next segment, or do you wish to break for
19 the evening?

20 (Discussion off the record)

21 MR. MARTINEZ: I'm thinking just in terms of the
22 flow and just sort of the subject groupings. It might
23 make sense to, you know, break because we're at the end
24 of sort of this particular subject matter.

25 And after this I really have, you know, just one

1 segment left. But, you know, it may take maybe, you
2 know, an hour or so. But I don't necessarily know
3 that -- you know, that it would make much sense to get
4 into that this evening.

5 CHAIRMAN NELSON: Here's the thing. We need
6 Cheri to come back Monday. And so, therefore, I think it
7 would probably be wise if we stopped at this point.

8 MR. MARTINEZ: Mr. Commissioner, could I make a
9 motion at this point?

10 I would like to move that the Commission
11 allocate some extra funds to hire a massage therapist for
12 Cheri.

13 CHAIRMAN NELSON: We may all need that before
14 this is over.

15 So let's talk about Monday just a little bit.
16 My recollection is we've got at least three witnesses
17 that have been promised Monday.

18 Staff, you have one?

19 MS. EDWARDS: Yes. But he's good for Tuesday as
20 well if need be.

21 CHAIRMAN NELSON: Okay. And we have Cindy
22 Myers.

23 Yankton, have you decided if your witness is
24 going to testify?

25 MS. REAL BIRD: She will testify. She was

1 promised Monday, but she, like Staff's witness, could go
2 later in the week. Whatever works.

3 MR. CAPOSSELA: We had one rebuttal that was
4 permitted to testify Monday.

5 CHAIRMAN NELSON: Okay. We may then very well
6 start with -- let me ask Staff.

7 Do you prefer Monday or Tuesday for your
8 witness?

9 MS. EDWARDS: Tuesday, please.

10 CHAIRMAN NELSON: Okay. We're going to start
11 with yours on Monday, and then we will get back into this
12 discussion.

13 MR. MARTINEZ: Okay. And I think -- like I
14 said, I don't think I've got more than an hour with
15 Mr. Vokes. And but then we do have Dr. Arden Davis and
16 Mr. Ellison will be doing his direct examination on
17 Monday and really in terms of the final witnesses we've
18 got are the Sibsons and if we could get some sort of
19 sense to know when they need to come into town.

20 But I guess --

21 CHAIRMAN NELSON: Well, yeah. I mean, it's --
22 it's hard to know how Monday will go. Maybe we'll have
23 them Monday. Maybe we won't. I just don't know how far
24 we'll get.

25 MR. BLACKBURN: Chair Nelson, I just wanted to

1 note that due to a client conflict, I may not be coming
2 back on Monday. I will let other folks know. I don't
3 have any other witnesses so it's just my loss on not
4 being able to do cross-examination.

5 CHAIRMAN NELSON: Very good. Appreciate your
6 sharing that.

7 Anything else procedurally?

8 MR. SMITH: Seeing none, we will recess until
9 8 o'clock -- 8 a.m. Monday morning.

10 (The hearing is adjourned at 5:50 p.m.)

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STATE OF SOUTH DAKOTA)

COUNTY OF SULLY)

:SS CERTIFICATE

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 1st day of August, 2015, and that the attached is a true and correct transcription of the proceedings so taken.

Dated at Onida, South Dakota this 30th day of August, 2015.

Cheri McComsey Wittler,
Notary Public and
Registered Professional Reporter
Certified Realtime Reporter

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