

A P P E A R A N C E S

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A P P E A R A N C E S (Continued)

COUNCIL MEMBERS PRESENT:

- William Lynch - Chair
- Jaime Rossman, Department of Commerce
- Cullen Stephenson, Department of Ecology
- Joe Stohr, Department of Fish and Wildlife
- Dennis Moss, Utilities and Transportation Commission
- Dan Siemann, Department of Natural Resources

Local Government and Optional State Agency:

- Ken Stone, Department of Transportation
- Bryan Snodgrass, City of Vancouver
- Greg Shafer, Clark County
- Larry Paulson, Port of Vancouver

A P P E A R A N C E S (Continued)

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A P P E A R A N C E S (Continued)

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A P P E A R A N C E S (Continued)

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Amanda Kleiss, Paralegal

HEARING
Volume 7: INDEX

WITNESSES:	PAGE
DAVA KAITALA	
Direct Examination by Mr. Derr	1479
Cross-Examination by Ms. Drummond	1504
Redirect Examination by Mr. Derr	1510
Recross-Examination by Ms. Drummond	1545
Redirect Examination by Mr. Derr	1548
LARRY GUTHRIE	
Direct Examination by Ms. Walsh	1555
Cross-Examination by Ms. Reed	1578
Redirect Examination by Ms. Walsh	1596
JOHN HACK	
Direct Examination by Mr. Kisielius	1603
Cross-Examination by Ms. Brimmer	1651
Redirect Examination by Mr. Kisielius	1662
Recross-Examination by Ms. Brimmer	1678
KEN AMES	
Direct Examination by Mr. Johnson	1684
Redirect Examination by Mr. Johnson	1695

EXHIBITS

	NUMBER	REF'D
3	Exhibit 0110-000155-TSS.....	1478
4	Exhibit 0113-000027-TSS.....	1480
5	Exhibit 0125-000001-TSS.....	1616
6	Exhibit 0195-000038-TSS.....	1611
7	Exhibit 0224-000101-TSS.....	1496
8	Exhibit 0225-000019-TSS.....	1496
9	Exhibit 0226-000052-TSS.....	1496
10	Exhibit 0238-000000-TSS.....	1599
11	Exhibit 0355-000009-TSS.....	1684
12	Exhibit 1008-000039-POR.....	1568
13	Exhibit 1009-00009-POR.....	1596
14	Exhibit 1010-000039-POR.....	1596
15	Exhibit 1043-000001-POR.....	1563
16	Exhibit 1044-000001-POR.....	1563
17	Exhibit 1045-000001-POR.....	1563
18	Exhibit 3068-000075-Van.....	1550
19	Exhibit 5556-000001-CRK.....	1601

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1 PROCEEDING

2 JUDGE NOBLE: Let's go back on the record,
3 again, in the State of Washington Energy Facility Siting
4 Council, Adjudication Number 15-001. And as I have
5 already told the parties, we will be -- not be in
6 session this Friday, the 8th of July, but we will add
7 two additional days, the 15th and 22nd of July, to give
8 the parties additional time to present their cases.

9 This morning it's my understanding that we
10 have three more witnesses that Tesoro and the Port are
11 putting on, and so I don't know whether it's Mr. Johnson
12 or Mr. Derr who is presenting the witnesses, but you may
13 call your first witness this morning.

14 MR. DERR: Thank you, Your Honor. I'll be
15 presenting the first witness. And I actually have --
16 before I call the witness, there's one exhibit attached
17 to a prefiled Exhibit 110, which is the BNSF's DEIS
18 comment letter that I believe you were going to review
19 to decide how it fits with your DEIS ruling.

20 JUDGE NOBLE: I did, and I will allow that
21 Exhibit 110 so it will be admitted.

22 MR. DERR: Thank you, Your Honor.

23 Then the applicant would like to call
24 Ms. Dava Kaitala to the stand. I assume you want to put
25 her under oath?

DERR / KAITALA

1 JUDGE NOBLE: Would you stand, please.

2

3

DAVA KAITALA,

4 having been first duly sworn, testified as follows:

5 JUDGE NOBLE: You may proceed, Mr. Derr.

6 MR. DERR: Thank you.

7

DIRECT EXAMINATION

8

BY MR. DERR:

9 **Q. Ms. Kaitala, would you first state your name and**
10 **spell it for the record.**

11 A. It's Dava Kaitala. My first name is spelled
12 D-a-v-a, and my last name is spelled K-a-i-t, as in Tom,
13 a-l-a.

14 **Q. Thank you.**

15 **Ms. Kaitala, can you briefly summarize your**
16 **background and your current role with BNSF?**

17 A. Yes. Currently I have two roles at BNSF. I'm
18 an environmental attorney and I'm also the general
19 director of construction permitting. I'm part of the
20 environmental leadership team. Before that I served as
21 a director of engineering services. And before that I
22 worked in the legal department at BNSF as a general
23 attorney.

24 **Q. Thank you.**

25 **And does that role at BNSF give you familiarity**

DERR / KAITALA

1 with the scope of federal, state and local regulations
2 of rail construction and operation?

3 A. It does.

4 Q. And I want to just confirm the draft EIS comment
5 letter. So we just admitted Exhibit 110, which is
6 BNSF's comment letter on the draft EIS.

7 Was that comment letter prepared under your
8 direction?

9 A. It was.

10 MR. DERR: And then next, Your Honor, we'd
11 like to offer Exhibit 113, which was the other exhibit
12 that was left subject to objection. So if I may refer
13 the witness to that exhibit and ask her a few questions?

14 JUDGE NOBLE: Yes.

15 BY MR. DERR:

16 Q. Ms. Kaitala, the Exhibit 113, there's a notebook
17 there which should have the exhibits as well as your
18 prefiled testimony. And Exhibit 113 is the BNSF Rail
19 Safety Plan, an undated version.

20 Can you describe what this document is?

21 A. Okay. And that's at Tab 5; correct?

22 Q. Yes.

23 A. Okay. Okay. Yes. That document is a
24 presentation that was prepared by our community affairs
25 team with a lot of input from HAZMAT and other --

DERR / KAITALA

1 JUDGE NOBLE: Could you speak up a little
2 bit and pull the mic closer?

3 THE WITNESS: I'm sorry.

4 That was a document that was prepared by our
5 community affairs team, and it was prepared with a lot
6 of input from both our HAZMAT team and other subject
7 matter experts, like our mechanical department. The
8 reason it's undated is it's used for a variety of
9 different audiences, and so depending on who the
10 audience is and what they've asked to learn about, pages
11 can be removed if there are things they're just really
12 not interested in. So it's used really for a variety of
13 different presentations.

14 BY MR. DERR:

15 **Q. Thank you.**

16 **Are you familiar with its contents?**

17 **A. I am.**

18 JUDGE NOBLE: Ms. Kaitala, can you also
19 speak a little slower for the court reporter?

20 THE WITNESS: I will. I'm sorry.

21 JUDGE NOBLE: Thank you.

22 MR. DERR: Your Honor, the applicant would
23 like to offer Exhibit 113 for admission.

24 JUDGE NOBLE: City of Vancouver had an
25 objection to that exhibit. Does it maintain?

DERR / KAITALA

1 MS. BRIMMER: No, we withdraw the objection.

2 JUDGE NOBLE: All right. Exhibit 113 will
3 be admitted.

4 BY MR. DERR:

5 Q. Thank you.

6 Ms. Kaitala, last, I just want to confirm, you
7 submitted prefiled testimony in this proceeding. Was
8 that document prepared under your direction?

9 A. It was.

10 Q. Because that testimony has already been
11 submitted and counsel has copies and has had the benefit
12 of reviewing it in advance, I'm not going to ask you a
13 lot of questions about that document, but others may
14 later in the proceeding.

15 A. Okay.

16 Q. So that contents is fair game as well as what I
17 ask you as follows. So I'm going to turn to just a
18 couple of questions on rail capacity.

19 Can you describe how BNSF addresses growth in
20 freight demand on your rail lines?

21 A. Yes. As freight demand grows, BNSF looks at
22 where there are capacity constraints, which are like
23 choke points like what you would have on a road, and
24 where there are choke points, we work to figure out how
25 to resolve the choke point and we add capacity as

DERR / KAITALA

1 business requires it.

2 **Q. Thank you.**

3 **What's your understanding regarding the number**
4 **of trains per day that would serve the Vancouver Energy**
5 **Terminal project?**

6 A. My understanding is that at full build-out,
7 which means that the facility is operating at full
8 capacity, it could receive four trains per day and there
9 would be four empty trains that would leave.

10 **Q. So four full ones and four empties leaving?**

11 A. Correct.

12 **Q. Thank you.**

13 **Can you tell us how rail volumes fluctuate over**
14 **the years and over the course of each year on the BNSF**
15 **line?**

16 A. Yes. Rail capacity is really dynamic, and, as
17 such, there are great fluctuations from month to month
18 and from year to year. For instance, in the fall when
19 the grain harvest comes in and when intermodal is up
20 because people are buying gifts for the holiday season,
21 our traffic is up quite high. At other times of the
22 year we have lulls where we have less traffic.

23 And then, depending on what's happening with the
24 economy, any particular area where we may have traffic,
25 different commodities will shift. So in one year it

DERR / KAITALA

1 could be that there was a particularly good grain
2 harvest so there are a lot of grain trains coming
3 through. In the same year perhaps intermodal is down a
4 little bit. So really it is very much a dynamic system,
5 not a static system.

6 **Q. And do you base evaluations of capacity on**
7 **24 hours a day or what volume of traffic?**

8 A. We don't, actually. We assume that each track
9 can operate about 18 hours a day. So when we look at
10 overall capacity, we build in six hours a day to do such
11 things as have maintenance or inspections so that no
12 trains are operating at those times.

13 **Q. Ms. Kaitala, first I want to just clarify to the**
14 **labels of the subdivisions of the BNSF main line in the**
15 **State of Washington.**

16 **Can you describe for me, there are three**
17 **subdivisions, I believe, that go from the Idaho border**
18 **through Spokane down to the Columbia Gorge and along the**
19 **Gorge; is that correct?**

20 A. Yes.

21 **Q. And are those the Spokane, Lakeside, and Fall**
22 **Bridge subdivisions?**

23 A. They are.

24 **Q. Thank you.**

25 **Can you explain to me, are current traffic rail**

DERR / KAITALA

1 volumes on those routes, those subdivisions, Spokane,
2 Lakeside, and Fall Bridge, are they above or below
3 historic highs currently?

4 A. They're below historic highs.

5 **Q. And based on the current volumes, if you were to**
6 **add the four to eight trains per day to that route, how**
7 **would the resulting volume compare with historic and**
8 **seasonal highs on those routes?**

9 A. It would still be within historic peaks that we
10 saw within the past five years.

11 **Q. Can you describe briefly the types of**
12 **investments and improvements that BNSF has made or plans**
13 **to make to address rail growth in the Pacific Northwest?**

14 A. Sure. We have made really very significant
15 expenditures in the Pacific Northwest, and particularly
16 in Washington. If you look at our northern route, in
17 2015 we spent about \$6 billion. The northern route goes
18 from Chicago to basically Seattle.

19 If you look specifically at Washington, in 2015
20 our plan was to spend \$200 million. The final figures
21 came in just under that at about 189 million. This year
22 our plan calls for 220 million and we believe that we
23 will be very close to that number.

24 **Q. So in your opinion, will the proposed volume of**
25 **rail traffic serving the Vancouver Energy project impact**

DERR / KAITALA

1 capacity on the BNSF's rail lines?

2 A. It will not.

3 Q. I'd next like to ask you a couple questions
4 about BNSF rail operational issues discussed in your
5 prefiled testimony and how they relate to federal
6 regulations in that regard.

7 Are you generally aware of federal regulations
8 regarding track inspection and maintenance requirements?

9 A. I am.

10 MR. DERR: And I want to ask Ms. Mastro to
11 pull up Exhibit 110, Page 101.

12 BY MR. DERR:

13 Q. This is a page from your DEIS comment letter,
14 which is Exhibit 110, and you can't read the text.
15 We've learned over the days that it's a little hard to
16 read text from the screen. It's found in Exhibit 110
17 and it's Page Number 101. So the very bottom right-hand
18 corner of the exhibits have a page number.

19 A. I'm sorry. The DEIS comment letter. Okay.

20 Q. In the bottom right corner, you'll see these
21 Bates stamp numbers with the exhibit and page number.
22 So if you go to Page 101, I just want to ask you first a
23 general question. This page I believe summarizes a bit.

24 How did BNSF inspection and maintenance
25 practices compare to what federal regulations require?

DERR / KAITALA

1 A. Our inspection and maintenance practices either
2 meet or exceed all federal FRA requirements -- (Court
3 reporter interruption.)

4 All of our maintenance procedures either meet or
5 exceed FRA requirements.

6 **Q. I don't want to force you to multitask if you've**
7 **found the page. We're going to stick with several pages**
8 **in 110, so once you get it open, hang on to that**
9 **document --**

10 A. Okay. Okay. I've got it.

11 **Q. -- and we'll look at it.**

12 **At what frequency does BNSF conduct visual**
13 **inspections on its key train routes?**

14 A. Key train routes across the system are inspected
15 at least four times a week, which is double what the FRA
16 requires. And if you look specifically in the State of
17 Washington along the Columbia River Gorge, those are
18 anticipated to be inspected daily and, generally,
19 they're inspected no less than five to six times a week.

20 **Q. And maybe for council's benefit just to avoid**
21 **terminology, can you describe what a key train is?**

22 A. Yes. A key train is generally, for purposes of
23 this, it is a train that's carrying at least 20 cars of
24 crude oil.

25 **Q. Okay. And then next question, does BNSF also**

DERR / KAITALA

1 conduct track inspections that require special machines
2 or equipment?

3 A. We do.

4 **Q. And I believe those inspections were summarized**
5 **in your prefiled testimony.**

6 A. They were.

7 **Q. So I won't ask you a lot of details on that,**
8 **but, again, others might later.**

9 A. Okay.

10 **Q. Does BNSF have inspection equipment that checks**
11 **track gauge for the spacing between the rails?**

12 A. We do. There is a car, it's a high rail vehicle
13 which means it's a vehicle that has both tires that run
14 on streets and then special tires that look like those
15 that are on a train, so steel wheels. It can set down
16 upon the track and as it moves along the track, it
17 checks track geometry to make sure that everything is
18 level. And, at the same time, it puts pressure down and
19 outward to mimics the pressure of the train.

20 What this does is it checks to make that as the
21 train is going by, the gauge is not being impacted. So
22 what that let's us know is that we don't have such
23 things as broken ties or significant missing fasteners
24 or other problems that could cause the track to go out
25 of gauge.

DERR / KAITALA

1 **Q. Can you tell me what amount of pressure that's**
2 **intended to replicate that's applied to the track?**

3 A. It's supposed to replicate a train going by, so
4 locomotives and the consist in the trains -- (Court
5 Reporter interruption.) And the consist, which means
6 the cars that are attached to them.

7 **Q. Thank you. I was going to ask you that**
8 **question.**

9 A. I apologize.

10 **Q. Why does BNSF conduct machine inspections in**
11 **addition to visual inspections?**

12 A. There are some things that visual inspections
13 can tell you. You can look and you can see if you have
14 ties that are broken or split. You can see, to some
15 extent, if you have missing fasteners. So there are
16 certain things that you can see with the naked eye.

17 But things that you can't see with the naked eye
18 are things like the track geometry, which is what the
19 geometry cars and the star car both check for. So they
20 check to see that the rails are level. They -- and they
21 check to make sure that there aren't dips, that there
22 aren't curves that are out of alignment.

23 So there are just a lot of things that you can
24 tell using lasers and machines that are doing very
25 advanced mathematical calculations that you just can't

DERR / KAITALA

1 do with the naked eye.

2 **Q. Do machines sort of inspect cars on a particular**
3 **frequency? Is it every car that goes by? How does the**
4 **machine function?**

5 A. Those are two different types of machines. The
6 ones that I've just been talking about are ones that are
7 inspecting tracks, so there are things that we call
8 geometry cars and then the star car.

9 Then there are things called wayside detectors,
10 and the wayside detectors are stuck to the track, and
11 those check for problems with the car and those do check
12 every car that rolls by. So they're looking at the
13 wheels and certain other things that are explained in
14 the DEIS -- I mean in the DEIS comment letter. I'm
15 sorry.

16 **Q. Thank you.**

17 **Next I'd like you to refer to Exhibit 110,**
18 **Page 123. And I want to just take you through a series**
19 **of maps from your DEIS comment letter. And for**
20 **reference, the map is on 123. The description of what**
21 **the equipment is found in the page before.**

22 A. Right.

23 **Q. This one is first the acoustic bearing detector.**
24 **And my first question is, could you identify whether**
25 **this technology is located on the route that will be**

DERR / KAITALA

1 used by the trains going to the Vancouver Energy
2 Terminal?

3 A. For the acoustic bearing detectors, yes.

4 **Q. And since we have an electronic record rather**
5 **than a video record, can you describe from the map**
6 **roughly where that technology is located?**

7 A. I believe that here it says Velox, which I
8 believe is just outside Spokane -- (Court Reporter
9 interruption.) If you look at the state of Washington
10 up on the map, it's near Spokane, so the eastern border
11 of the state, and it says, "ABD Velox" at the top, and
12 that's a location on our line, and that's where the
13 acoustic bearing detector is located.

14 **Q. Thank you. And I think even Spokane is probably**
15 **close enough for purposes of the record. Thank you.**

16 **Can you also turn to Exhibit 110, Page 126.**
17 **Ms. Kaitala, can you explain what this technology is**
18 **briefly, and again, the locations on the route in the**
19 **state of Washington?**

20 A. Okay. These are hot wheel detectors, and so
21 these are thermal scanners. And what they're doing is
22 they're looking at the temperature of the wheels, as the
23 name would suggest. You don't want the wheels to be
24 overheated. That tends to show that you're having a
25 braking issue.

DERR / KAITALA

1 So if we have a hot wheel that's detected, we
2 know to possibly pull a car out, depending on the
3 temperature of the wheel. And those are located on a
4 number of -- in a number of locations on the route.

5 **Q. Thank you. Next, Page 130.**

6 **JUDGE NOBLE: Excuse me, Ms. Kaitala,**
7 **there's a question from a board member.**

8 MR. STEPHENSON: I'm sorry. Braking,
9 b-r-a-k-e?

10 THE WITNESS: Yes. A problem with the
11 brakes on the train, yes. That perhaps the brakes, like
12 if you're riding a brake in your car, the brakes are
13 being applied so that the wheels are heating up.

14 BY MR. DERR:

15 **Q. I didn't ask, but let me ask a general question**
16 **about that.**

17 **So if it discovers a hot wheel, it tells**
18 **somebody there's a hot wheel? How does that work?**

19 A. Yes. The information is relayed to a desk in
20 Ft. Worth, and then I'm not certain about this, but I
21 believe there's also an e-mail that goes out locally to
22 the people there that let them know that there may be an
23 issue so that the car needs to be inspected to see
24 whether it needs to be pulled out of service.

25 **Q. Okay. Thank you.**

DERR / KAITALA

1 Page 130, please. Can you describe this
2 technology? And again, is it located on the routes in
3 Washington?

4 A. The machine vision system, I unfortunately don't
5 know much about, I'm sorry. I haven't worked in our
6 mechanical branch.

7 I can say that the machine vision system is a
8 number of cameras and they look at a number of things
9 holistically over the car, and some of those things are
10 listed on Page 129. So they're looking at the wheel
11 profile, they're looking at the top, they're looking at
12 the undercarriage, and then they're also looking at
13 drain valves to make sure that no valve has opened
14 enroute. And yes, that one is also located near
15 Spokane.

16 **Q. Thank you.**

17 **And how about Page 132? THD. You're going to**
18 **need to spell this one out for all of us.**

19 A. THD is a truck hunting detector, and what the
20 truck hunting detector is trying to detect is whether or
21 not we have -- when you look at the truck, you're
22 looking at kind of the bottom of the car itself and it's
23 looking for swaying so that you can see if there's an
24 issue perhaps with the wheels.

25 MR. DERR: Again, for council's benefit, the

DERR / KAITALA

1 way the comment letter is set up, the page before
2 describes the technology and illustrates examples of
3 what it's looking for, and then the map sort of shows
4 where it's located.

5 BY MR. DERR:

6 **Q. Okay, let's go next to 134. Can you describe?**

7 A. Okay. These are the truck performance
8 detectors, and as it lays out on Page 133, a truck
9 performance detector is looking around mainly S curves,
10 which are where you have two curves that sort of go in
11 opposite directions so that they make the letter S, to
12 see if there are issues with how the car is performing
13 around those curves.

14 **Q. And again, is that located on the routes in**
15 **Washington?**

16 A. It appears to be, yes.

17 **Q. And finally, 137, please. Can you describe this**
18 **technology and whether it's located on the route in**
19 **Washington?**

20 A. The optical geometry detector actually takes
21 multiple pages to explain. I'll just say it's a
22 laser-based system and it's really looking at where the
23 wheels are overall. So it's looking for things like
24 truck steering and hunting; that's that swaying issue
25 that we talked about earlier. And it also is located,

DERR / KAITALA

1 it appears, on the route.

2 **Q. Thank you.**

3 **For some of the technologies you've described,**
4 **can you describe the spacing of the technology and how**
5 **that compares with federal regulations?**

6 A. On our key routes for our wayside detectors, we
7 have wayside detectors about every 10 miles, whereas I
8 believe FRA regulations are every 40 miles. And
9 elsewhere on the system we may have them as close
10 together as every 20 miles. But through the Gorge, I
11 believe they're every 10 miles.

12 **Q. Thank you. Next I'm going to ask you a couple**
13 **questions about bridges.**

14 **Does BNSF conduct inspections of all bridges on**
15 **its rail routes?**

16 A. We do.

17 **Q. Can you describe the frequency of those**
18 **inspections?**

19 A. It averages out to about three inspections per
20 bridge per year. We have a little over 13,000 bridges
21 on the BNSF system, and we conducted about
22 35,000 inspections last year.

23 Each bridge, by FRA regulation, once every
24 calendar year will receive a full visual inspection by a
25 certified bridge inspector. And then we also have

DERR / KAITALA

1 something called a supervisor inspector where the bridge
2 supervisor over that area has to go out also and inspect
3 the bridge, do the same type of inspection, look at
4 everything really that you can see.

5 In addition to that, any time we talk about all
6 of these track inspections, the geometry car, which this
7 year will go through the Gorge eight times and the
8 visual inspections, those also look at the track on the
9 bridges. So each time that happens, to some extent the
10 bridge is being inspected, because we would expect that
11 if there was an issue with the bridge it would be
12 reflected in the track.

13 **Q. Thank you.**

14 **And do you know roughly how that inspection**
15 **frequency compares with federal requirements?**

16 A. It is more than federal requirements.

17 **Q. Just a couple questions about the emergency**
18 **response planning and preparedness.**

19 **Does BNSF have a geographic response plan for**
20 **each of it's Spokane, Lakeside, and Fall Bridge**
21 **subdivisions?**

22 A. We do.

23 MR. DERR: And those, for council's
24 reference, are Exhibits 224, 225 and 226, and those --
25 the details of those were discussed by Mr. Haugstad in

DERR / KAITALA

1 his testimony yesterday.

2 BY MR. DERR:

3 Q. What about response equipment, both spill and
4 fire equipment? Does BNSF have that equipment located
5 along this northern route?

6 A. We do.

7 Q. If you would refer to Exhibit 110, Page 149.
8 Can you describe what this shows?

9 A. This shows all of our fire trailers and the
10 large circle around them is 150-mile radius, because we
11 expect each of our fire trailers to be able to respond
12 within a 150-mile radius. And what this shows is for
13 the route from Whitefish over to Vancouver, we are well
14 covered with, in some cases, multiple trailers covering
15 the same area.

16 Q. Can you tell from the graphic, does that include
17 a trailer located in Vancouver?

18 A. It appears to, yes.

19 Q. And Page 150, please.

20 A. Okay.

21 Q. Can you describe what this map shows?

22 A. This shows our oil spill response equipment
23 locations within the Pacific Northwest.

24 Q. And again, are those -- some of those located
25 along the route that will be used by these trains?

DERR / KAITALA

1 A. Yes, they appear to be.

2 MR. DERR: And for council's benefit, these
3 were two exhibits that were referenced briefly in
4 Mr. Haugstad's testimony, but because the exhibit had
5 not been introduced, he spoke about it generally without
6 this specific information. So now Ms. Kaitala's
7 testimony will connect the dots hopefully with
8 Mr. Haugstad's testimony about how these work.

9 Does BNSF have any firefighting equipment
10 besides the home trailers?

11 A. We do. We also have what we call fire
12 suppression trains, which are trains that are loaded
13 with water so that if there are fires in areas that are
14 not easily accessed by road, first responders can have
15 access to water.

16 **Q. And so are those made available to responders**
17 **beyond BNSF employees?**

18 A. Yes, they are.

19 **Q. And how about incident response training**
20 **programs to first responders? Does BNSF offer training?**

21 A. We do. We're very proud of our training
22 program.

23 **Q. How does that training work? Is it local? Is**
24 **it someplace else? Can you describe that for me?**

25 A. We have multiple training programs. We have a

DERR / KAITALA

1 lot of online training. If there are first responders
2 who can't get away from their duty locations, they can
3 do online training. We also do a lot of community local
4 training. And then on top of that, we have a three-day
5 class that we put on with the industry, so the other
6 Class 1 railroads, that is in a couple of locations
7 that's a three-day class that's about crude oil response
8 specifically.

9 **Q. And there was a question yesterday from a**
10 **council member about training in Washington**
11 **specifically.**

12 **Do you have a sense of whether or how much of**
13 **this training has been offered to responders in the**
14 **State of Washington?**

15 A. It has been a significant amount, and my numbers
16 are a bit approximate, but I'm -- I hope that these are
17 close. For community training, I believe that over the
18 past three years we've trained around 2,700 first
19 responders in the State of Washington, and that is on
20 HAZMAT response in general. And then along the crude
21 oil route, that would include crude oil-specific
22 training.

23 And then in addition to that, we also -- we have
24 trained somewhere over the past three years 250 to
25 260 first responders from Washington state in the

DERR / KAITALA

1 three-day program for crude oil response.

2 Q. Thank you.

3 So if a first responder from a local department
4 along the BNSF route were to ask BNSF to participate in
5 this training, what would BNSF's response be?

6 A. We would be happy to train anyone who needed it
7 or who would like the training.

8 Q. And does BNSF reimburse local entities or
9 responders for the cost of that training?

10 A. We do. We cover the costs of the training, and
11 then I believe for the three-day we also offer a per
12 diem to the first responders who attend.

13 Q. And do you know if BNSF has offered training to
14 Washington Department of Natural Resources?

15 A. We have, and I believe that we had at least one
16 participant, but I'm not sure of the numbers.

17 Q. Okay. Next I want to just ask you, have you
18 reviewed the prefiled testimony of Mr. Robert Johnson?

19 A. I have.

20 Q. And do you recall him talking about a wildfire
21 incident some years back that was -- he said was caused
22 by a BNSF locomotive?

23 A. I think it was in 2007. Yes, I do.

24 Q. And do you recall his statement that the
25 taxpayers were required to pay the cost of responding to

DERR / KAITALA

1 that fire?

2 A. I do.

3 **Q. And what's your response to that?**

4 A. BNSF reimbursed Washington DNR for those costs.
5 I looked into our systems to see whether or not payment
6 had been made, and payment had been made for that fire.

7 **Q. Okay. Does BNSF have a wildfire response plan**
8 **on the Columbia Gorge route?**

9 A. We do.

10 MR. DERR: Your Honor, that was a question
11 that was raised earlier. The wildfire response plan is
12 not on the exhibit list because we just sort of
13 discovered it, so I'm not going to ask her to speak to
14 the document because it's not an exhibit. But if the
15 council would like to see a copy of that document, we
16 can work with the intervenors and make that available.
17 But I don't want to take her down a path on an exhibit
18 that we don't have on the list at this time.

19 JUDGE NOBLE: Have the other parties seen
20 the document?

21 MR. DERR: No. We just got it last night.

22 JUDGE NOBLE: And will this witness be
23 available for questions if it is ultimately admitted,
24 say, tomorrow or later today?

25 MR. DERR: We might be able to do it by

DERR / KAITALA

1 telephone. She's just testifying to the fact that it
2 exists in response to another prefiled witness whose
3 testimony you struck much of, except for facts, and his
4 statement was there is no plan. So her statement is
5 there is a plan, but I'm not wanting to take her down
6 the path of what's in the plan unless council wants us
7 to make that available and then we can do so.

8 JUDGE NOBLE: It would only be considered by
9 the council if it was admitted as an exhibit.

10 MR. DERR: Sure.

11 JUDGE NOBLE: So you can do what you want
12 about that and share it with the other parties and offer
13 it if you choose to do so.

14 MR. DERR: Why don't I do this. I'll check
15 with the other parties to see if they want to look at it
16 and use it, and, if so, we'll offer it. At this point,
17 we'll just leave it that it exists in response to
18 Mr. Senter's testimony that it doesn't exist.

19 JUDGE NOBLE: Thank you. That works.

20 BY MR. DERR:

21 **Q. Finally, Ms. Kaitala, just a few questions about**
22 **sort of regulation of rail and whether the federal**
23 **government does it or the state government does it.**

24 **As a general matter, are state and local**
25 **governments permitted to impose conditions on rail**

DERR / KAITALA

1 transportation of crude oil that differ -- (Court
2 Reporter interruption.)

3 Are state and local governments permitted to
4 impose conditions on rail transportation of crude oil
5 that differ from federal requirements?

6 A. Generally, no. No, they're not.

7 **Q. And if they were prevented to do so, can you**
8 **describe briefly what problems that would cause for**
9 **BNSF?**

10 A. Well, it would be a problem that would be shared
11 among the Class 1 railroads. When we put a train
12 together at origin, if you looked, for instance, at the
13 type of rail cars that were connected to a train, we
14 don't always know necessarily what route that train is
15 going to take. There are things that can alter a
16 train's route when it's in progress.

17 So, for instance, if there's maintenance on a
18 line or if there's been a landslide, if there's
19 something going on that causes a train to be rerouted,
20 it would be very difficult for us to ensure that the
21 train followed the route where the cars would be legal
22 in each of the states and municipalities that it would
23 be passing through. So it would be very difficult for
24 BNSF to know it's always following the laws of the
25 different states and municipalities.

DRUMMOND / KAITALA

1 Q. Thank you.

2 Did BNSF file an Amicus brief in support of the
3 preemption motion in this proceeding?

4 A. We did.

5 Q. Does that still reflect BNSF's views of how
6 local regulation would interfere with BNSF's operations?

7 A. Yes, it does.

8 MR. DERR: Thank you.

9 Your Honor, I have no further questions.

10 JUDGE NOBLE: Cross-examination?

11 CROSS-EXAMINATION

12 BY MS. DRUMMOND:

13 Q. Good morning, council, Ms. Kaitala. I'm Susan
14 Drummond for the City of Vancouver. I just have a few
15 questions, and if council had anything before I started.

16 Ms. Kaitala, you agreed that there are presently
17 18 oil trains rolling through Vancouver each week?

18 A. I'm not sure of the number going through
19 Vancouver.

20 Q. Okay. But this proposal would add 28 trains per
21 week to the system, four trains per day times seven?

22 A. Yes.

23 Q. You maintain that that increase in oil train
24 traffic is not significant?

25 A. I do.

DRUMMOND / KAITALA

1 **Q. Would you agree that there have been 25 oil**
2 **ethanol train accidents in which product was released**
3 **over the last decade?**

4 MR. DERR: Objection. That's outside the
5 scope of her testimony.

6 MS. DRUMMOND: Ms. Kaitala has talked about
7 safety measures that BNSF has in place. This goes to
8 the efficacy of the safety measures and whether they're
9 working. If her testimony is limited to simply
10 describing what is in place, certainly our witnesses can
11 address how well those in fact are working on the ground
12 and what is actually occurring on the ground.

13 JUDGE NOBLE: And can you describe where
14 you're going with this line of questioning?

15 MS. DRUMMOND: The questions have to do with
16 the safety record of BNSF. In particular, there have
17 been a number of BNSF accidents, certainly they're on
18 their tracks. The line of questioning addresses do all
19 of the safety measures that BNSF is taking, which
20 includes we've heard about inspections, we've heard
21 about training. Is that actually preventing accidents
22 from happening or is accident a reality that BNSF
23 continues to have to deal with.

24 JUDGE NOBLE: All right. I'm going to allow
25 the question.

DRUMMOND / KAITALA

1 BY MS. DRUMMOND:

2 Q. So back to the question.

3 You agree that there have been 25 oil ethanol
4 train accidents in which product has been released over
5 the last decade?

6 A. I don't know.

7 Q. Are you aware that five of these accidents were
8 on BNSF track?

9 A. I am aware of five accidents on BNSF tracks,
10 yes.

11 Q. Would these be ones in which more than
12 50,000 gallons of product was released?

13 A. I'm not certain how much was released. I think
14 in some of those incidents it was lesser quantities.

15 Q. So you do agree, though, that there are
16 accidents on BNSF tracks; correct?

17 A. I do.

18 Q. Are you aware that BNSF had 1,616 accidents on
19 tracks --

20 MR. DERR: Your Honor, I'm going to object
21 again. This is not an adjudication of BNSF's
22 operations. She testified to inspections in the state
23 of Washington on the Washington tracks. BNSF is here
24 really as to assist all of us, including the council, on
25 operational issues on the BNSF track in Washington that

DRUMMOND / KAITALA

1 the council asked to be included in the adjudication.
2 This is not a trial on BNSF's safety record and should
3 not be a trial on BNSF's safety record.

4 MS. DRUMMOND: And I don't want to get too
5 far into this. City's witnesses will detail the safety
6 record and what's actually occurring on these tracks.
7 But I just have a few questions on, again, this goes
8 back to the efficacy of the safety measures; are
9 accidents happening, are they actually preventing
10 serious accidents with which the council would have
11 concerns about in terms of looking at this project and
12 what the witness has testified about.

13 But I understand the witness has really just
14 testified as to what BNSF does as a separate question,
15 so whether this is actually working on the ground.

16 JUDGE NOBLE: Again, I think it is fair to
17 inquire into specific incidents. This witness has
18 testified about the safety program in general and that
19 leads it just in the abstract without these questions
20 about specific incidents.

21 MR. DERR: If I may, the witness has also
22 not examined the facts of any of those incidents; she
23 was not asked to do so. She's testified she does not
24 know. And I don't know how many of these questions need
25 to be repeated if she has not -- that's not been the

DRUMMOND / KAITALA

1 scope of her testimony, to investigate BNSF's safety
2 record across the country.

3 JUDGE NOBLE: I understand the objection,
4 and I also understand that there are not going to be
5 that many more questions about specific incidents from
6 this witness. But I do think that the issue of a safety
7 record has certainly been opened up by this witness and
8 the questions on direct of this witness, and I think
9 it's a fair line of questioning.

10 So I'm going to allow it to continue up to a
11 point, but she can also say, if she doesn't know, that
12 she doesn't know.

13 MR. DERR: Thank you.

14 BY MS. DRUMMOND:

15 Q. So just back to that question I think that I was
16 asking.

17 Are you aware that BNSF has had 1,616 accidents
18 in a four-year period on its tracks?

19 A. I don't know.

20 Q. Would you agree that train accidents can happen
21 at speeds of 40 miles per hour or less?

22 A. Yes.

23 Q. Are you aware that 18 of 25 serious oil train
24 ethanol accidents over a 10-year period involve train
25 speeds of 40 miles per hour or less?

DRUMMOND / KAITALA

1 A. I don't know.

2 JUDGE NOBLE: Ms. Drummond, you are speaking
3 way too fast for the court reporter.

4 MS. DRUMMOND: My apologies.

5 BY MS. DRUMMOND:

6 Q. Just to repeat the last question for the record,
7 that was whether the witness was aware of 18 of
8 25 serious oil train ethanol accidents over a 10-year
9 period involved train speeds of 40 miles per hour or
10 less. And the answer to that was no.

11 I think that's it in terms of --

12 A. I'm sorry. The answer is actually I don't know.

13 Q. You don't know, sorry.

14 Just a couple questions regarding rail
15 inspections.

16 Are you aware that the rail line in Mosier was
17 inspected at least six times in the two and a half
18 months before the June 3rd derailment?

19 A. I'm not aware. The Mosier incident took place
20 on a different railroad's tracks, and so I don't know
21 what their inspection protocols are.

22 Q. Okay. And are you aware that serious accidents
23 have occurred even where ultrasonic inspections occurred
24 prior to the accident including just the day before?

25 A. I'm not aware.

KAITALA

1 MS. DRUMMOND: Thank you. No further
2 questions.

3 JUDGE NOBLE: Thank you, Ms. Drummond.
4 Is there any other cross-examination of
5 Ms. Kaitala? Redirect?

6 MR. DERR: Just one, Your Honor.

7 REDIRECT EXAMINATION

8 BY MR. DERR:

9 **Q. Ms. Kaitala, you were asked a bunch of questions**
10 **about BNSF incidents. Are you aware of any incidents on**
11 **the BNSF lines in the state of Washington?**

12 A. Any incidents involving crude oil or ethanol?

13 **Q. Yes.**

14 A. No, I'm not.

15 MR. DERR: Thank you. No further questions.

16 JUDGE NOBLE: Thank you.

17 Council questions?

18 Mr. Moss?

19 MR. MOSS: Thank you. Good morning.

20 THE WITNESS: Good morning.

21 MR. MOSS: You testified to a series of
22 inspection devices and protocols that BNSF follows in
23 attempting to maintain a safe system. And it's actually
24 almost a striking number.

25 And I'm wondering, is this level of

KAITALA

1 inspection, which seems to be fairly granular, important
2 because it doesn't take very much in the way, for
3 example, of a misalignment in track geometry or in some
4 of the other things that are being measured to cause an
5 accident? I can phrase that a little differently if it
6 will help.

7 Are trains pretty sensitive to their track
8 geometry?

9 THE WITNESS: They are sensitive to track
10 geometry, which is why we -- (Court Reporter
11 interruption.)

12 They are very sensitive to track geometry,
13 which is why we do inspect so often.

14 MR. MOSS: Okay. One of the issues we are
15 concerned about in the state of Washington is seismic
16 activity, and I've been out here about 20 years and
17 experienced a few small and one significant earthquake.

18 I'm wondering if the smaller seismic events
19 cause changes in track geometry along the BNSF line in
20 Washington.

21 THE WITNESS: They can, which is why any
22 time there's a seismic event, no matter the size, we
23 immediately go out and inspect the track before another
24 train can run through that area.

25 MR. MOSS: Okay. So the trains that might

KAITALA

1 be running through that area are stopped or diverted?

2 THE WITNESS: I believe that they're
3 stopped, yes.

4 MR. MOSS: Okay. All right. I wanted to
5 look at that map on Page 123 of, is it Exhibit 110, I
6 believe are the maps?

7 Can you put that up, Ms. Mastro? And
8 actually any of the maps would do for this question,
9 because what I'm interested is the -- I couldn't find
10 the key.

11 And I'm wondering, are all these tracks in
12 Washington state that are black in color, are those all
13 BNSF lines?

14 THE WITNESS: Yes, I believe so. These are
15 the BNSF lines running.

16 MR. MOSS: I notice in an east-west
17 configuration there appear to be three principal lines?

18 THE WITNESS: There are.

19 MR. MOSS: Can oil trains move on any of
20 those?

21 THE WITNESS: Oil trains only -- or the type
22 that would be serving Tesoro Savage and Vancouver
23 Energy, they would only move on the key train route
24 which is the one that Mr. Derr described. They would
25 not move on the other two mainly because of grade. It's

KAITALA

1 a very steep grade.

2 MR. MOSS: You have to go through the
3 mountains on those?

4 THE WITNESS: Right.

5 MR. MOSS: So despite the terminus to the
6 west on the northernmost track, we're not having oil
7 trains on that today because it's not the preferred
8 route?

9 THE WITNESS: That's my understanding, yes.

10 MR. MOSS: So any oil trains BNSF is
11 currently running, I think somebody said 18, if that's
12 the right number, whether you can confirm that or not is
13 unimportant, but whatever number of oil trains that are
14 running in Washington today, if they're going up to
15 Anacortes, for example, as their ultimate destination in
16 the northwest part of Washington state, they would still
17 follow the Columbia River route, go through Vancouver
18 and so forth?

19 THE WITNESS: That's correct.

20 MR. MOSS: Okay. In addition to the BNSF
21 inspectors, are there independent inspectors who examine
22 the tracks and other aspects of BNSF rail operations?

23 THE WITNESS: There are. Both the FRA and
24 the UTC with the State of Washington also inspect the
25 tracks, and, in fact, I think the UTC just recently, and

KAITALA

1 the FRA, went through and did thorough inspections of
2 the Columbia River Gorge route.

3 MR. MOSS: And why was that?

4 THE WITNESS: I believe it was in response
5 to the Mosier incident.

6 MR. MOSS: I see. Are there any findings
7 from that yet?

8 THE WITNESS: I haven't seen. My
9 understanding just from very high level conversations
10 with the people involved, we were very pleased with the
11 outcome.

12 MR. MOSS: You were very pleased?

13 THE WITNESS: They were.

14 MR. MOSS: They were. Okay.

15 Will there be BNSF inspectors looking at the
16 track inside this terminal if it's built?

17 THE WITNESS: I don't believe so, but I
18 honestly don't know the answer to that question.

19 MR. MOSS: Typically, perhaps, would be a
20 better way to phrase the question.

21 The terminal is not part of the BNSF system,
22 so would it typically be the case that BNSF would not
23 inspect tracks that are not part of its system?

24 THE WITNESS: I don't know.

25 MR. MOSS: Don't know.

KAITALA

1 THE WITNESS: I was trying to think if I've
2 ever been involved with track inspection of an
3 industry's track. And I think that we do occasionally,
4 but I'm not sure that it's on the same frequency as we
5 do on our own track.

6 MR. MOSS: Okay. You might do that if you
7 were asked by the owner?

8 THE WITNESS: Yeah, we might do that if we
9 were asked. Or, frankly, if we thought that there was a
10 problem that would put our crew at risk, we would
11 certainly want to go out and look.

12 MR. MOSS: Okay. Do you happen to know if
13 UTC inspects tracks on that type of facility?

14 THE WITNESS: I don't know.

15 MR. MOSS: I'm going to jump around a little
16 bit, and I apologize for that. I was just taking notes
17 as you testified.

18 How long does it take a fire trailer to
19 travel 75 miles?

20 THE WITNESS: Oh, I don't know. I'm trying
21 to recall. I had a conversation with our HAZMAT team
22 about how quickly we felt any foam trailer could be
23 deployed, and I think that they said it could be at any
24 fire within three hours.

25 MR. MOSS: Three hours?

KAITALA

1 THE WITNESS: But if you would like that
2 specific information, I can get that for you.

3 MR. MOSS: If that's a good approximation,
4 I'm satisfied with that.

5 THE WITNESS: I think it is. I will
6 double-check. If it is not, I will inform the council.

7 MR. MOSS: You'll correct me. All right.
8 Thank you very much. I appreciate that.

9 I noticed in looking at another of the maps,
10 and I apologize, I forgot to write down the page number,
11 but it's the one that shows the concentrations of oil
12 response equipment along the route, routes, I should
13 say, I notice that there was a significant concentration
14 of such equipment in what appears to be from the map to
15 be the Columbia River valley.

16 Can you explain to me why there's a
17 significantly higher concentration there than in other
18 places along the route?

19 THE WITNESS: I would. It's because we
20 value very much the Columbia River, and, as such, we are
21 very concerned that if should there be an incident, not
22 just with a crude oil train, but if we had a problem
23 with a locomotive that leaked or any other product that
24 leaked, we would want to very, very quickly be able to
25 protect the Columbia River.

KAITALA

1 MR. MOSS: Okay. I think that's all I have,
2 and I very much appreciate your testimony.

3 THE WITNESS: Thank you for having me.

4 JUDGE NOBLE: Are there council questions to
5 my left?

6 Mr. Rossman?

7 MR. ROSSMAN: I have a couple questions, and
8 thank you for your testimony today.

9 The first goes to your testimony in response
10 to Witness Johnson and reimbursement of taxpayer costs.

11 Do you recall the amount -- you said you
12 looked it up in your system. Do you recall the amount
13 of reimbursement that BNSF made in that instance?

14 THE WITNESS: It was just over \$460,000.

15 MR. ROSSMAN: Okay. And then the second
16 question I have is from Paragraph 43 of your prefiled
17 testimony.

18 THE WITNESS: I'm sorry. Let me find that
19 really quick.

20 MR. ROSSMAN: It's a reference to a
21 statistic I've heard in other places that 99.99 of
22 hazardous material shipments occur without incident on
23 BNSF systems. And I think there's also a slide in, I
24 think it was in the draft DEIS letter where it goes out
25 to one more decimal, 99.997 percent.

KAITALA

1 THE WITNESS: And for last year it was
2 99.998. We improved slightly.

3 MR. ROSSMAN: Excellent. I guess I'm
4 wondering, do you know what unit of analysis that
5 focuses on? Is that per car? Per train? It's
6 described as "shipment," and I don't quite understand
7 what --

8 THE WITNESS: I believe it's per car, but it
9 may be per train. And I can get that information for
10 you if you would like.

11 MR. ROSSMAN: Yeah, that would be really
12 helpful. Thank you.

13 THE WITNESS: Mr. Derr, if you can make a
14 note of that so I don't forget.

15 MR. DERR: Your Honor, I'm going to have a
16 logistics question for you, then, on how you want us to
17 do this. If Ms. Kaitala is here today, if we get it
18 today, we can bring her back and have her under oath and
19 do so. If she's -- if we don't get it today, we can do
20 a sworn declaration to submit these two pieces, if
21 that's the council's pleasure. But I want to be sure I
22 know the process to get that to you.

23 JUDGE NOBLE: A declaration works fine. You
24 need to, of course, provide it to other parties before
25 you hand it in. And I don't think it's necessary to

KAITALA

1 bring this witness back for that.

2 MR. DERR: Thank you.

3 MR. ROSSMAN: Those are my only questions.
4 Thank you very much.

5 THE WITNESS: Thank you.

6 JUDGE NOBLE: Any other questions from my
7 left?

8 Mr. Siemann?

9 MR. SIEMANN: Thank you also for your
10 testimony. I have a number of questions primarily about
11 your prefiled testimony. And I'm going to jump around
12 quite a bit. And some of them you may have ability to
13 answer and maybe not, so --

14 THE WITNESS: Okay. And I will say I don't
15 actually have a copy of my prefiled testimony.

16 MR. SIEMANN: It may not be necessary.

17 THE WITNESS: Okay.

18 MR. SIEMANN: So one of the things that you
19 said in the prefiled testimony is that there's adequate
20 capacity on the tracks for future growth.

21 Is there no limit or what is the limit to
22 the number of trains that the tracks could handle? What
23 I'm wondering about is, these four unit trains seem to
24 not push that boundary. What is that boundary?

25 THE WITNESS: That boundary is,

KAITALA

1 unfortunately, highly business confidential, because
2 when it comes down to it what we're selling is capacity
3 in our network. But what you can use as a really good
4 approximation are the numbers that are in the state rail
5 plan, and those let you know for each one of our
6 segments kind of an idea of what our capacity is.

7 MR. DERR: Your Honor, if I may, I'll give
8 her a copy.

9 THE WITNESS: Thank you. Oh, I'm sorry, I
10 did have it.

11 MR. SIEMANN: My second question refers to
12 seismic and slide events which you discuss in the
13 prefiled testimony.

14 And I'm wondering if you know how many
15 slides there were in -- sorry, my eyes are not good
16 enough anymore -- were along the Columbia River or what
17 frequency of problems there were in terms of slides and
18 where the problem areas are. And part of why I'm asking
19 this is that the Department of Natural Resources filed a
20 brief saying that the Columbia River Gorge contains a
21 significant part of the rail line and is among the most
22 landslide prone areas in the state in the recent past.

23 THE WITNESS: I don't know the numbers. I
24 do know that we put in slide fences in a number of
25 locations and that we've been working with Washington

KAITALA

1 DOT to identify areas where we were concerned where
2 there had been slides that had impacted the track, and
3 specifically had impacted passenger rail which also runs
4 on this route.

5 And I believe a lot of those were on the
6 Lakeside sub. I believe there were a few on the Fall
7 Bridge sub. And we are addressing those as
8 expeditiously as we can.

9 MR. SIEMANN: Okay. Also related to seismic
10 issues, and this is something I've been sort of poking
11 at for a while now, are the BNSF tracks, are they
12 seismically reinforced?

13 THE WITNESS: I really don't know the answer
14 to that question. I'm sorry.

15 MR. SIEMANN: And relatedly, is there a kind
16 of track design tolerance -- so one of the things that
17 we heard in previous testimony is that at the project
18 site, the proposed site, in a 9.0 seismic event or
19 significant seismic event, the ground could settle 6 to
20 24 inches because of its -- because it could liquify,
21 liquefaction zone.

22 And what I'm trying to get at is, what is
23 the design tolerance for railroad tracks? At what point
24 would they likely fail? How much play is there
25 available in railroad tracks?

KAITALA

1 THE WITNESS: I think a lot of that depends
2 on the ground that's underneath. So we build through a
3 number of different types of soil conditions. Generally
4 we do bring in soil so that we have a good base. I
5 don't know what the exact tolerance is should there be a
6 seismic event. But, as I mentioned earlier, we do after
7 any seismic event go out and inspect the track to ensure
8 we don't have track geometry problems that would affect
9 the train.

10 MR. SIEMANN: Do you know if there's ever
11 been a seismic event that has toppled railroad cars?

12 THE WITNESS: I don't know of one. That
13 doesn't mean that one doesn't exist, but I don't know of
14 one.

15 MR. SIEMANN: Fair enough. Okay.

16 In your prefiled testimony you also
17 discussed train speeds. And I'm wondering, do you know
18 what the actual speed limit is for the crude-by-rail
19 trains going through the Columbia Gorge?

20 THE WITNESS: I believe it's 30 or 35 miles
21 an hour, but I can check on that for you.

22 MR. SIEMANN: Okay. And is that also the
23 same speed going into Vancouver and linking up, sort of
24 coming in through the more densely populated areas?

25 THE WITNESS: The speed limit going in to

KAITALA

1 Vancouver, particularly into this facility, we have
2 what's referred to as head-end restriction speeds, which
3 means when we hit the speed limit, by the time the front
4 of the locomotive hits that speed limit, it needs to be
5 going the lesser speed, and then it's a back-end
6 restriction as they're speeding up.

7 So because the Vancouver Energy Terminal has
8 a 10-mile-an-hour speed limit, trains coming through
9 Vancouver will have to slow down significantly ahead of
10 time in order to be at 10 miles an hour before they
11 enter the facility. So they would be going
12 significantly less than 30 miles an hour going through
13 the City of Vancouver.

14 Did that make any sense at all?

15 MR. SIEMANN: Yes.

16 THE WITNESS: Okay.

17 MR. SIEMANN: And your prefiled testimony
18 also discussed emissions, locomotive emissions. And do
19 you know what the fuel usage is for a full unit train
20 per mile?

21 THE WITNESS: I don't. I think it would
22 depend on a number of factors. It would depend on the
23 age of the locomotive, it would depend on the grade that
24 the locomotive is going over, the number of locomotives
25 in the consist. So it would be hard to say what the

KAITALA

1 average would be for any train.

2 MR. SIEMANN: I'm guessing, then, there's no
3 estimate yet for CO2 or greenhouse gas emissions from
4 the railroad cars and from the locomotives.

5 THE WITNESS: I don't believe we have done
6 that. I believe that the terminal itself may have run
7 those numbers.

8 MR. SIEMANN: And one last set of questions
9 revolves around fire. And as you note, there have been
10 a number of fires that have been sparked by railroad --
11 by the rail system.

12 Is there anything that can be done to reduce
13 the likelihood of sparks and ignitions?

14 THE WITNESS: Yes. When we talk about our
15 wildfire response, for the Pacific Northwest we have a
16 wildfire response plan. It considers such things as in
17 high fire conditions where we think there's a lot of
18 danger of fire, every morning we will be making
19 decisions about whether or not trains even run in those
20 areas. We put off maintenance activities that are not
21 absolutely necessary if there's a high fire danger.

22 In addition, our crews that are going to be
23 going out and doing welding and other things are going
24 to have to be required to have a water cannon with them
25 so that if there are sparks they can be quickly put out.

KAITALA

1 So there's a number of measures we take to prevent
2 fires.

3 I'm trying to think if there's anything
4 else. And then of course should a fire start, we have
5 the fire suppression trains and the training that we do
6 for first responders.

7 MR. SIEMANN: Does the speed of the train
8 influence the spark potential of those wheels and
9 tracks?

10 THE WITNESS: I don't believe so. I think
11 it's more a matter of braking. I don't believe that the
12 speed of the train would have an impact.

13 MR. SIEMANN: Okay. Thank you.

14 JUDGE NOBLE: Mr. Rossman, you had another
15 question?

16 MR. ROSSMAN: I did. Thank you.

17 This is on the preemption question and how
18 it impacts your operations. And one thing that we've
19 heard from the applicant is that they're intending to
20 voluntarily limit the type of tank car that can deliver
21 to their facility.

22 Does that impact your operations at all?

23 THE WITNESS: It does not. BNSF has been a
24 leader in encouraging the use of newer tank cars. Our
25 only issue is that we're required to pick up anything

KAITALA

1 that's packaged within FRA guidelines, so if older cars
2 are used, we have to pick them up.

3 So our concern would be, where it would
4 impact BNSF would be if, for instance, the State of
5 Washington said DOT-111s can't come into the state and
6 one of our customers said -- (Court reporter
7 interruption.) DOT-111, which is an older tank car, if
8 Washington said those can't come into the state, FRA
9 still allows them, and a customer said, here's a train,
10 it has DOT-111s, we would not under federal law be
11 allowed to say no.

12 MR. ROSSMAN: Generally speaking, would
13 other constraints imposed by a receiver like a terminal
14 on, say, the length of cars or the time that cars could
15 deliver to that facility, would those impact your
16 operations in a negative way or would that just be
17 logistics that you would be scheduling around?

18 THE WITNESS: That would be tough. It would
19 really depend on what the different options were, and we
20 would have to look at traffic and if we had other
21 options. For instance, if there were delivery limits,
22 whether or not there's a place we could hold the train,
23 and I don't know for this facility whether there would
24 be such a place.

25 MR. ROSSMAN: Got it. All right. Thank

KAITALA

1 you.

2 JUDGE NOBLE: Any further questions from my
3 left?

4 Mr. Lynch?

5 MR. LYNCH: Good morning.

6 THE WITNESS: Good morning.

7 MR. LYNCH: I have some questions with
8 respect to your prefiled testimony, and if you could
9 first turn to Paragraphs 17 and 18 regarding slides.

10 THE WITNESS: Okay.

11 MR. LYNCH: And you first reference in
12 Paragraph 17 slide fences. And I gather from reading
13 this that they're actually just warning devices. They
14 don't actually keep material from the tracks; is that
15 correct?

16 THE WITNESS: They may keep some material
17 from the tracks, but they're mainly an early warning
18 system. So if one of our slide fence detectors goes
19 off, you know, if it says there's a problem here, it
20 puts what's called a red block on that track, which
21 means trains know they're not allowed to enter that
22 area.

23 MR. LYNCH: And in Paragraph 18, you
24 reference the Landslide Mitigation Action Plan for the
25 Pacific Northwest Rail Corridor, but in looking at that

KAITALA

1 report, that looks like that only pertains to the lines
2 that essentially parallel I-5; is that correct? It
3 doesn't affect the rail routes that these trains would
4 be taking?

5 THE WITNESS: I would have to go back and
6 check. I believed that that was the same route, but I
7 could be mistaken. I can double check that for you.

8 MR. LYNCH: It's actually in your prefiled
9 as an exhibit.

10 THE WITNESS: Yeah.

11 MR. LYNCH: I think it's Exhibit to the
12 attachment, it might be B.

13 MR. DERR: If I may, Your Honor, if you want
14 to pull up the cover, it's Exhibit 110, starts on
15 Page 42. Exhibit 110, starts on 42 is that landslide --
16 the DOT landslide report that you referred to.

17 THE WITNESS: Okay.

18 MR. DERR: And somewhere in there maybe you
19 can find that.

20 MR. LYNCH: I'm just looking at the study
21 corridor right after the table of contents. This would
22 be Page 1. That looks to me like it starts north of
23 Everett at some point and then continues down south.

24 Is that how you read that?

25 THE WITNESS: That is, that's correct.

KAITALA

1 MR. LYNCH: Do you know if there is any
2 comparable action plan or work on an action plan for the
3 route that these trains will be traveling?

4 THE WITNESS: I haven't heard of one, and
5 that's probably because so far we haven't had landslides
6 that generally have impacted the track in those areas.
7 I'm trying to think if I've heard of a landslide that's
8 in the Gorge, and I just can't think of one off the top
9 of my head.

10 MR. LYNCH: So along this train route you're
11 not aware of any landslides that have affected the
12 tracks?

13 THE WITNESS: Correct. And if we had an
14 issue with that, we would want to put in slide fences
15 and other warning systems.

16 MR. LYNCH: Thank you.

17 Could you take a look at Page -- excuse me,
18 Paragraph 22 of your prefiled, please? And in that
19 paragraph you mention that, "When wind warnings are
20 received that indicate possible high wind speeds, BNSF
21 instructs passenger" -- excuse me, "passenger trains to
22 reduce speed."

23 Is something comparable for freight trains
24 or unit trains?

25 THE WITNESS: It is, yes. We do have high

KAITALA

1 speed warnings for our un-trains as well as passenger
2 trains.

3 MR. LYNCH: What level would that be where
4 you would be -- what levels would that be when you'd be
5 instructing trains to slow down?

6 THE WITNESS: I don't know, but I can look
7 into that for you if you would like.

8 MR. LYNCH: I'd appreciate that. Thank you.

9 THE WITNESS: Okay.

10 MR. LYNCH: I'm almost done. Page 38 --
11 excuse me, Paragraph 38 of your prefiled. You mention
12 about, "Trains carrying crude oil are limited to 40
13 miles per hour if they carry one or more DOT-111 or
14 CPC-1232 tank cars, when moving through
15 federally-designated 'high-threat urban areas.'"

16 Are there any federally-designated
17 high-threat urban areas on this route?

18 THE WITNESS: I'm not sure if there are or
19 not. Those are Department of Homeland Security
20 regulations and they designate those areas, so they
21 should be fairly easy to find.

22 MR. LYNCH: Okay. And the length of
23 these -- of the proposed unit trains coming to this
24 facility I believe is 110 cars; is that right?

25 THE WITNESS: That's my understanding, yes.

KAITALA

1 MR. LYNCH: I'm just trying to figure,
2 110 cars, why not 115 or 90? I'm just wondering how it
3 came out to 110.

4 THE WITNESS: I believe that's what the
5 facility had asked to have delivered.

6 MR. LYNCH: It's more the facility that
7 they're able to handle that. That's your
8 understanding --

9 THE WITNESS: That's my understanding.

10 MR. LYNCH: -- they can handle 110 cars.

11 Are you aware of -- I believe we have some
12 other prefiled testimony where concerns were expressed
13 about the length of unit trains. And I believe the
14 Cheney area, because the only areas to cross the tracks
15 are close together and a unit train, depending how if
16 it's stopped, could actually block the train
17 crossings -- ability to cross the tracks in the near
18 Cheney area, and they'd actually have to -- this is
19 according to the prefiled testimony. In order to cross
20 the tracks, someone would have to drive half a mile --
21 excuse me, half an hour north to a little community
22 called Marshall.

23 And so I'm just kind of wondering, when you
24 hear -- is there any proposed action that you know of to
25 have some other crossing alternatives for this

KAITALA

1 community?

2 THE WITNESS: I am not aware of any. When
3 communities approach us and ask to designate areas as
4 crossings, we're always willing to have those
5 conversations with them and see if there's something
6 that can be worked out.

7 MR. LYNCH: Okay. Thank you. Those are my
8 only questions.

9 THE WITNESS: Thank you.

10 JUDGE NOBLE: Any other questions to my
11 right?

12 Mr. Stone?

13 MR. STONE: Good morning, Ms. Kaitala.

14 THE WITNESS: Good morning.

15 MR. STONE: In regard to the visual
16 inspections that BNSF conducts, how are they conducted?
17 Does it involve crew members actually walking along the
18 track or riding in some sort of vehicle?

19 THE WITNESS: It's both. They're both high
20 rail inspections and walking inspections.

21 MR. STONE: Okay. And the high rail
22 inspections are on a vehicle. And what speed are those
23 vehicles traveling at?

24 THE WITNESS: They're going at very slow
25 speeds. The high rails that I've ridden in generally,

KAITALA

1 if we're looking at track, never go more than 10 to
2 15 miles an hour and if we see anything, we can back up
3 to check out what it is we think we saw. And in areas
4 where we are particularly concerned, then we slow down
5 and look even more closely.

6 MR. STONE: Under what circumstances would
7 the visual inspections be done by walking?

8 THE WITNESS: Mainly it's a curve area or
9 any areas where we have concerns. So generally on
10 curved areas throughout the Gorge, we try, on a regular
11 basis, no less than I think it's once a year, but I
12 think it ends up being much more frequent than that, we
13 walk the curves to check to see if there are any issues.

14 MR. STONE: Okay. If a track fastener had a
15 stress fracture and thus weakened, but still in one
16 piece, are any of your inspection programs able to
17 detect that?

18 THE WITNESS: If track fasteners are broken,
19 there are a couple of ways that we could see that. One
20 would be the high rail inspections or walking
21 inspections.

22 Another is we have two kinds of geometry
23 cars. We have both manned and unmanned geometry cars,
24 and the manned geometry cars actually have an optical
25 system under them that gives us a close look at the

KAITALA

1 track, including the fasteners. And so we could see
2 whether or not we have broken our missing fasteners
3 using that technology.

4 MR. STONE: Well, my point is that the
5 fastener has a stress fracture in it, but it's not
6 broken, it's still in one piece. So it may look like
7 it's okay but it's not.

8 I'm wondering if any of your inspection
9 programs can detect that.

10 THE WITNESS: I believe the star car would.
11 I don't know if it would a single fasteners because our
12 fasteners generally are meant to be close enough
13 together that if you have a failure of one, that is not
14 going to be a failure of the track by any means. But
15 the star car, when it's pushing down and out on the
16 rail, would let you know if you had an area that was
17 likely to go out of gauge because of broken fasteners.

18 MR. STONE: Okay. Switching subjects to the
19 incident response training that BNSF provides, you
20 mentioned there's three kinds; online, local, and a
21 three-day classroom. Where is the three-day classroom
22 training conducted?

23 THE WITNESS: I think that there are two
24 areas. I believe one is in Texas and one is in Colorado
25 and so we pay the travel expenses and the per diem for

KAITALA

1 the people who attend that training.

2 MR. STONE: Could you describe the local
3 training? Does that occur out in the field using the
4 equipment that would be used to respond or how does that
5 work?

6 THE WITNESS: It is. That's our -- our sort
7 of community HAZMAT training. It's our bigger training,
8 so it covers not just crude oil but all HAZMAT
9 shipments. And we've been doing that since the 1990s.

10 So we have a car that we bring out that we
11 can set on fire and practice putting the fire out. And
12 it allows really hands-on training for first responders
13 in the field.

14 MR. STONE: Okay. So of the 2,700 first
15 responders that have been trained in Washington state,
16 you mention 250 have taken the three-day training. Do
17 you know how many have taken the local onsite training?

18 THE WITNESS: That was the 27- to 2,800
19 number. We don't keep track of who does our online
20 training, so it could be a significantly higher number.

21 MR. STONE: Okay. That was it. Thank you.

22 THE WITNESS: Okay. Thank you.

23 JUDGE NOBLE: Other questions to my right?

24 Mr. Paulson?

25 MR. PAULSON: Ms. Kaitala, thank you for

KAITALA

1 coming, I expect a long way, for this testimony. A
2 couple clarifying questions, if I may.

3 How long has BNSF been calling the Port of
4 Vancouver, do you know?

5 THE WITNESS: How long have we -- I'm sorry?

6 MR. PAULSON: Have you been bringing trains
7 to the Port of Vancouver?

8 THE WITNESS: I don't know specifically the
9 Port of Vancouver. I know that we've been operating in
10 the State of Washington for more than a hundred years.

11 MR. PAULSON: All right. Second question.
12 When the trains arrive at the Port of
13 Vancouver, are they brought in by BNSF crews? Or do you
14 know?

15 THE WITNESS: I don't know. We have two
16 different ways that we do this. I believe that the Port
17 of Vancouver BNSF crews do deliver the trains.

18 MR. PAULSON: And then they take them out as
19 well?

20 THE WITNESS: And then we take them out.

21 But for some destinations and customers, we
22 actually deliver to the facility and then they have
23 trained crews that bring them into the facility.

24 MR. PAULSON: Would it be fair to say that
25 you don't have any particular personal knowledge about

KAITALA

1 how the trains are operated at the Port of Vancouver?

2 THE WITNESS: I do not.

3 MR. PAULSON: No other questions.

4 JUDGE NOBLE: Any other questions to my
5 right?

6 Mr. Shafer?

7 MR. SHAFER: Ms. Kaitala, thank you very
8 much for your testimony this morning.

9 One question on emergency response. I want
10 to make sure that I understand this correctly.

11 Are you saying that BNSF is fully prepared,
12 equipped with personnel and material and any other
13 necessities to fully respond to an event, say, as a fire
14 or a derailment? Is that fully contained within BNSF
15 itself, or do you expect to rely on any local, county or
16 city agencies for response to those incidents?

17 THE WITNESS: We have significant response
18 capabilities ourselves, both through BSNF employees and
19 contractors. However, in many events, localities do
20 send first responders as well and, generally, we
21 reimburse those expenses.

22 MR. SHAFER: For unit trains, and I think
23 the number here is 110 cars for the unit trains expected
24 associated with this project, are you saying that BNSF
25 would -- is prepared to fully respond to a fire or spill

KAITALA

1 of a unit train of that magnitude?

2 THE WITNESS: We are fully prepared to
3 respond to any incident that happens on our tracks.

4 MR. SHAFER: Okay. Thank you.

5 JUDGE NOBLE: Mr. Snodgrass?

6 MR. SNODGRASS: Good morning.

7 THE WITNESS: Good morning.

8 MR. SNODGRASS: I wanted to just try and get
9 a little clarity, if I could, around the question of the
10 current level of the traffic in the corridor,
11 particularly the Fall Bridge subdivision.

12 Currently, how many trains -- well, let's
13 say of 100 cars or more comparable to the unit trains in
14 length, are westbound on the Fall Bridge?

15 THE WITNESS: I don't know the exact
16 numbers. I'm sorry.

17 MR. SNODGRASS: Okay. I wondered if you
18 could provide that. That would certainly help me
19 understand the capacity issues and to what the
20 incremental expansion this would represent. I'd be
21 interested in knowing what the number of 100-plus trains
22 currently westbound on the Fall Bridge and also, to pick
23 another number, 50, just to get a sense of how the
24 proposals here could impact in terms of those issues and
25 what the increment would be.

KAITALA

1 Would the four trains, four inbound trains
2 envisioned, would they displace any projected traffic of
3 other -- of any other nature?

4 THE WITNESS: No, they would not.

5 MR. SNODGRASS: Okay. Just I guess a couple
6 of quick questions on the northern route options that
7 were discussed earlier, and I'm obviously not familiar
8 with those.

9 Other than oil traffic, are there other
10 types of freight which does not move through that
11 corridor and takes the southern route?

12 THE WITNESS: Well, there are three routes,
13 so the Gorge route I think is the one that we're talking
14 about.

15 MR. SNODGRASS: Yes.

16 THE WITNESS: So the ones that don't take
17 the --

18 MR. SNODGRASS: Right.

19 THE WITNESS: -- the other route.

20 It's basically anything that's very heavy.
21 So grain trains are very heavy, so grain trains
22 generally wouldn't take that route. A lot of tanker
23 traffic would not take that route, for example.

24 MR. SNODGRASS: Okay. To your knowledge, is
25 that -- to what extent is that a safety decision or to

KAITALA

1 what extent is that an economic decision?

2 THE WITNESS: It's both. It is obviously
3 less expensive if you don't go over significant grade.
4 But we also just really don't like taking very heavy
5 trains over mountainous passes if we can help it.

6 MR. SNODGRASS: Understood.

7 In terms of the response, does BNSF have a,
8 for lack of a better word, marine capacity? In other
9 words, either a car that might be leaking into a river,
10 like the Columbia River or otherwise, or either
11 regarding the leak of a car that still is on the track
12 or near it or a car that somehow has been derailed and
13 into the river?

14 Is that anything that BNSF can help with or
15 is that strictly other responders that need to?

16 THE WITNESS: BNSF absolutely responds to
17 those types of incidents.

18 MR. SNODGRASS: Could you describe the
19 nature of your marine response, briefly?

20 THE WITNESS: Yeah. This isn't my subject
21 matter, but I have a bit of working knowledge so I'll do
22 the best I can on this.

23 We deploy booms, so those are -- they're
24 meant to keep anything from moving down river. They
25 sort of make almost a dam so that the stuff doesn't go

KAITALA

1 any further.

2 We have equipment to pick up cars. You
3 asked about cars that end up in the waterway; we do have
4 that happen. We have equipment where we can pick up the
5 cars and then have them taken away usually by truck.

6 We clean up anything that's in the water.
7 Again, our priority is first to have it not move any
8 further than it has to or that it already has. And then
9 our second priority is to get it out of the water, if
10 possible.

11 MR. SNODGRASS: I guess just one last
12 question. I was sort of struck by the size of the BNSF
13 network in one of the exhibits.

14 In general, are the safety and monitoring
15 provisions that you described, are those substantially
16 different in Washington than elsewhere?

17 THE WITNESS: They are enhanced through the
18 Columbia River Gorge, but they're enhanced in other
19 areas that we believe are highly sensitive as well.

20 MR. SNODGRASS: Thank you.

21 THE WITNESS: Thank you.

22 JUDGE NOBLE: Mr. Stone?

23 MR. STONE: A follow-up question.

24 We heard testimony last week that the Tesoro
25 refinery in Northwest Washington receives crude oil by

KAITALA

1 rail from North Dakota. So based on your testimony, I
2 assume that that -- those oil trains do not travel the
3 northern route across Washington, but come down the
4 Columbia Gorge to Vancouver then north?

5 THE WITNESS: That's my understanding.

6 MR. STONE: Okay. Thank you.

7 JUDGE NOBLE: Any other council questions?

8 I just have a couple of clarifying
9 questions.

10 I've read in some previous submittals that
11 the BNSF's position is that there would be no net
12 increase of train traffic because of these four unit
13 trains. And what I hear from your testimony is that
14 there would be a net increase of four trains a day
15 usually, not every day. So which is it?

16 THE WITNESS: This is actually -- that's a
17 very good question, and this is a little bit confusing
18 because it has to do with how dynamic our system is.

19 It seems very easy to say if you currently
20 have 15 trains moving on the line, if you add four then
21 that would be 19, and that that would seem to make good
22 sense. It would seem to be easy math.

23 But the fact is, regularly, BNSF's traffic
24 is going up and down because it is so dynamic. We
25 aren't adding four trains to a static system.

KAITALA

1 So while I could say with certainty that it
2 will be four trains or up to four trains a day, more
3 than whatever would be moving anyway, it isn't
4 necessarily a pure addition of four trains a day.

5 JUDGE NOBLE: All right. Thank you.

6 And also, I would like a little bit more
7 clarification, I guess, on the issue of taking a train
8 over a steep grade. It seems intuitively that that
9 wouldn't be a good idea, but you're here as an expert
10 and I would like to know maybe if you can say what
11 percentage of it is a safety concern, what's that based
12 on, and what percentage is more of an economic basis
13 that it's more expensive to take a train over the routes
14 that have steep grades?

15 THE WITNESS: This is not generally my area
16 of expertise, but I would say that it is mostly safety.
17 It is mostly that we don't like to take heavy trains
18 over a mountainous grade if we have another option.

19 JUDGE NOBLE: Because?

20 THE WITNESS: Just because it's much easier
21 to move them over flat ground. You don't have to worry
22 about, you know, speeding up to get up the hill, if you
23 think of "The Little Engine That Could." And you don't
24 have to worry about slowing down as they're going down
25 hill, which is actually more of a concern for us. We

KAITALA

1 don't want a train to start moving too quickly as it's
2 going downhill.

3 JUDGE NOBLE: All right. Thank you for
4 that.

5 MR. MOSS: Can I follow up with something?

6 JUDGE NOBLE: Oh. Mr. Moss?

7 MR. MOSS: I just wanted to follow up on
8 that briefly.

9 I seem to recall in your testimony you said
10 something to the effect that there's no significant
11 difference in the weight of an oil unit train and other
12 types of unit trains.

13 So based on what you just testified, is it
14 the case that unit trains generally will not be used in
15 northern routes on the BNSF system?

16 THE WITNESS: Generally heavy unit trains,
17 so things like grain, tank cars, would not generally use
18 the mountainous routes in Washington.

19 MR. MOSS: Okay. All right. Thank you.

20 JUDGE NOBLE: I think there are no more
21 council questions.

22 So are there questions based upon council
23 questions?

24 MS. DRUMMOND: Yes, Your Honor. I have a
25 few from the City of Vancouver.

DRUMMOND / KAITALA

1 JUDGE NOBLE: Yes.

2 MS. DRUMMOND: Just a few follow-up
3 questions. Again for the record, I'm Susan Drummond for
4 the City of Vancouver.

5

6 RECROSS-EXAMINATION

7 BY MS. DRUMMOND:

8 Q. Has BNSF offered to reimburse the cost of
9 backfilling positions so local firefighters can attend
10 training?

11 A. I'm not aware if we have or not.

12 Q. You were asked a question by the council of the
13 ability of BNSF to entirely respond to an emergency
14 event without outside help.

15 Does BNSF have that ability? If you have a
16 fire, you have explosions, do they have that ability or
17 do they have to rely on outside first responders?

18 A. If it were a large fire or a large event, we
19 would rely on first responders.

20 Q. So you would have to have local help from local
21 fire departments and so forth to address such an
22 incident?

23 A. We would.

24 Q. And partly is that because you do not have the
25 fully trained BNSF crews at the exact site where that

DRUMMOND / KAITALA

1 particular incident might occur?

2 A. It's not, no.

3 Q. Clarification on the addition of oil trains to
4 the route.

5 This is a proposal to add 28 trains per week.
6 So that is -- I understand the grain and other movements
7 and shipments go up and down, but this is a proposal to
8 add 28 per week; correct?

9 A. Up to 28, yes.

10 Q. Okay. So that is in addition to what is already
11 occurring, so you have a total of, what, 46 per week?

12 A. No. That would be true in a static system. So
13 if nothing else changed, it would be an addition of
14 28 trains a week. But other traffic changes regularly.

15 Q. How else would the oil be transported then?

16 A. I'm sorry. I don't know about other oil trains
17 moving through.

18 Q. I'm just talking about oil. I understand that
19 other shipments, grains can go up and down and so forth,
20 but I'm talking about oil.

21 We've got 18 moving through Vancouver right now
22 with the proposal, we've got four times seven, that's 28
23 per week -- (Court Reporter interruption.)

24 We've got 18 moving through Vancouver. Right
25 now, with the proposal, we have 28 per week. That's a

DRUMMOND / KAITALA

1 total of 46 per week oil trains.

2 A. Yes.

3 **Q. And then are you aware that the Federal Railroad**
4 **Administration issued preliminary factual findings**
5 **regarding the Mosier incident on June 23rd of this year?**

6 A. I am.

7 **Q. And does it remain your testimony that the**
8 **findings in that report, I think you said everyone was**
9 **pleased with those findings?**

10 A. No.

11 **Q. You did not say that?**

12 A. No. What I was talking about was after the
13 Mosier incident, FRA, and I believe UTC, but I know for
14 sure FRA, did inspections. I believe they mentioned in
15 their report they did inspections of the BNSF line as
16 well as the UP line. And my understanding, again, from
17 high level sort of hallway conversations with people,
18 was that we were pleased with the outcome of the
19 inspections on the BNSF line.

20 **Q. Of later. Okay.**

21 A. Right.

22 **Q. One last question on the Mosier incident.**

23 **The inspections that had been occurring, are you**
24 **aware that those included both the use of a detector car**
25 **and a geometry car before the accident?**

DERR / KAITALA

1 A. I am aware generally that those are used, but
2 again, I'm not privy to the frequency or when they
3 occurred in relation to the incident.

4 MS. DRUMMOND: Okay. Thank you. No further
5 questions.

6 JUDGE NOBLE: The opponents have no further
7 questions of this witness based on council questions?

8 Mr. Derr?

9 MR. DERR: I have just two, I think.

REDIRECT EXAMINATION

10
11 BY MR. DERR:

12 **Q. Chairman Lynch asked you a couple questions**
13 **about the crossings in Cheney.**

14 A. Correct.

15 **Q. And what might happen.**

16 MR. DERR: For council's benefit, we have a
17 transportation engineer coming later who will be able to
18 answer from a transportation standpoint how that works,
19 but I want to ask a couple questions about how rail
20 operations work.

21 BY MR. DERR:

22 **Q. First, is a unit train of crude oil longer than**
23 **other unit trains or longer than other freight trains on**
24 **the BNSF system?**

25 A. It's not longer than other unit trains.

DERR / KAITALA

1 Q. So would the crossing delay impact of unit
2 trains be any different as far as time to get through
3 the intersection as any other train would be, do you
4 know?

5 A. I don't know for certain, but I don't see that
6 it would be.

7 Q. And secondly, if you had a train that needed to
8 stop, would it typically stop blocking the intersection?

9 A. Our crews are instructed to do what they can to
10 avoid blocking intersections. So typically, they should
11 not be blocking intersections.

12 Q. Okay. And if you had a situation where the
13 train car derailed and yet part of the train was
14 blocking the intersection, does BNSF have the ability to
15 break the train and clear the intersection?

16 A. We do. So we would uncouple cars, we would
17 bring a locomotive in from one end and move those cars
18 so that we could unblock the crossing.

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

20 JUDGE NOBLE: Ms. Kaitala, thank you very
21 much for your testimony. We appreciate you being here
22 and thank you for that. You are excused as a witness.

23 THE WITNESS: Thank you.

24 JUDGE NOBLE: This is a good time to take
25 the morning break. We will be in recess until 10:55.

1 (Recess taken from 10:38 a.m. to 10:58 a.m.)

2 JUDGE NOBLE: The City has an issue with
3 regard to Exhibit 3111, which has a new version that has
4 been submitted on a CD this morning, and I would ask if
5 there's any objection to the substitution of
6 Exhibit 3111 to the latest version of the ground lease.

7 MR. JOHNSON: No objection from the
8 applicant.

9 JUDGE NOBLE: All right. The substitution
10 will be made, 3111, the latest version.

11 MS. DRUMMOND: Thank you, Your Honor.

12 UNKNOWN SPEAKER: Your Honor, my apologies,
13 but it's actually 3068.

14 JUDGE NOBLE: All right. Forget what I just
15 said. 3068 will be updated with the latest version of
16 the lease. Thank you.

17 And there is one -- there are a couple of
18 other things. One is that I want to just make a record
19 that I've been given a list of witnesses that the
20 parties don't intend to call or cross-examination, and I
21 have given that list to the council to see if the
22 council had questions for any of those witnesses. And
23 the only witness on that list the council would like to
24 be given the opportunity to question is Mr. Ames. And
25 so the other witnesses can just have their testimony

1 submitted in writing.

2 And the next thing has to do with the
3 declaration of Ms. Kaitala, and I would like to hear
4 from the parties about the specifics of how we want to
5 arrange that.

6 MS. BRIMMER: Your Honor, members of the
7 council, so we have a few concerns about making sure
8 that there are fences and parameters on this, as this
9 process is going to be somewhat unusual. And I just
10 want to note in opening that it is the applicant's
11 obligation to make their case and to bring people that
12 can make that case, and that's customarily the way these
13 things happen. And if their people can't do that and
14 can't answer the questions, then that's a gap.

15 At the same time, though, we also want to
16 make sure that the council's questions are answered and
17 that the council does have information that the council
18 desires to make its decisions. So while we are willing
19 to allow testimony to come in in this unusual way and
20 after the fact at this hearing, that puts us in a
21 difficult position with respect to be able to know what
22 that testimony was going to be, to be able to
23 effectively cross-examine and to prepare our own
24 rebuttal.

25 So what we would like to make sure happens

1 with respect to this additional declaration to
2 supplement Ms. Kaitala's testimony is that we get on the
3 record the exact questions where she said, "I don't know
4 but I can supply that," where that information is going
5 to be supplied, and that we make sure that only those
6 questions are the questions that are answered in the
7 declaration.

8 And then I would also like to just turn to
9 Ms. Boyles because then we have one additional way to
10 address the fact that we haven't had ample opportunity
11 to address those things. So -- but we can help respond
12 to those questions.

13 MS. BOYLES: Thank you, Ms. Brimmer.

14 In respect to the issues of rail capacity
15 that I believe Mr. Siemann was asking about, Ms. Kaitala
16 had referenced a rail capacity report that could provide
17 some answers that she was unwilling to provide because
18 of confidential business information. I would like to
19 be able to submit that report as an exhibit. It's a
20 late-filed exhibit, obviously, but it is from the State
21 Department of Transportation, as well as another exhibit
22 which is a report about that report called
23 "Heavy Traffic Still Ahead," which is also would be a
24 new exhibit.

25 I will provide -- I cannot provide those at

1 this precise instant, but I can get those to opposing
2 counsel to look at and we could make that motion to
3 admit them tomorrow. But I want to note that as a way
4 to address some of the issues that were being raised by
5 council, questions about rail capacity.

6 JUDGE NOBLE: Well, first, is there going to
7 be any objection to those two additional exhibits that
8 Ms. Boyles has described from the proponents?

9 MR. DERR: Your Honor, I sat in the back row
10 because I thought I was done, but if I can respond.

11 JUDGE NOBLE: Of course.

12 MR. DERR: I think I know what the exhibits
13 are, but obviously I need to look at them before I can
14 say whether we object to them or not. And actually, one
15 clarification, I think.

16 The information Ms. Kaitala referred to as
17 confidential was BNSF's specific information. I believe
18 the question was how many 100-car trains on Fall Bridge.
19 I can't remember if it was last year or what it was. So
20 I need to get the transcript to find out the exact
21 question. If it's information about BNSF's specific
22 volumes, that's the confidential piece, because rail
23 companies, that's what they sell is capacity on their
24 rail line.

25 If it's generally what's the volumes on

1 those rail lines from a report like the state report,
2 then that's not confidential. And if it's the report I
3 think it is, I think we would have no objection to that.
4 But I just need to review the exhibits and let you know,
5 if I may.

6 And my thought on the approach was, I think
7 to do the same. We get the transcript tonight, the
8 draft typically, and we were going to kind of clip those
9 questions and put those into a declaration. So here's
10 the question, or maybe even here's the whole transcript
11 exchange, here is the sworn answer from Ms. Kaitala, and
12 then the parties will have an opportunity to see if that
13 responded to the question or responded to something
14 else.

15 JUDGE NOBLE: And it is prior to the
16 opponents' case that the opponents would have an
17 opportunity to put evidence on in response to that. But
18 as far as cross-examination of the witness, I'll leave
19 it up to the opponents to decide whether or not, given
20 the testimony once you see it in writing, that would be
21 necessary. And then we'll deal with that at that time.

22 With regard to the two reports, Mr. Derr, as
23 I understand it, will take a look at them to make sure
24 that he has no objection. He's not anticipating an
25 objection, but of course he needs to look at them first.

WALSH / GUTHRIE

1 And I assume that the testimony, I'm
2 certain, will be provided, the declaration will be
3 provided to the opponents so that you can report back on
4 whether or not you have any objection to it itself.

5 I think that's everything. Did I not
6 address anything?

7 MS. BOYLES: Thank you.

8 JUDGE NOBLE: You're welcome. Thank you.
9 Thank you, Mr. Derr.

10 We are ready for additional testimony. Call
11 your next witness, Ms. Walsh.

12 MS. WALSH: Thank you, Your Honor.

13 Chair Lynch and council, my name is Kelly
14 Walsh. I represent the Port of Vancouver, and we will
15 call Larry Guthrie at this time.

16 JUDGE NOBLE: Mr. Guthrie, would you raise
17 your right hand, please.

18 LARRY R. GUTHRIE,
19 having been first duly sworn, testified as follows:

20 JUDGE NOBLE: You may proceed, Ms. Walsh.

21 MS. WALSH: Thank you.

22 DIRECT EXAMINATION

23 BY MS. WALSH:

24 **Q. Mr. Guthrie, there's a copy of your prefiled**
25 **testimony there. If you need it to refer at any time,**

WALSH / GUTHRIE

1 please feel free to do that.

2 Could you please state your name and spell your
3 last name for the record.

4 A. My name is Larry R. Guthrie, G-u-t-h-r-i-e.

5 **Q. And where are you currently employed,**
6 **Mr. Guthrie?**

7 A. I'm employed for TUV Rheinland, Mobility Real
8 Sciences Division, located in Atlanta, Georgia.

9 **Q. And that's a business that does rail consulting?**

10 A. That is correct.

11 **Q. Can you explain briefly to the council what**
12 **types of things you do in that business?**

13 A. In that business, we do numerous types of
14 analyses, primarily computer simulation, modeling of
15 derailments, accident prevention procedures, independent
16 safety audits. We do track inspections, we do capacity
17 analysis and other minor things, but primarily that's
18 what we focus on today.

19 **Q. And how long have you been employed by TUV**
20 **Rheinland?**

21 A. I've been with them for five years.

22 **Q. Prior to that you had a lengthy career in the**
23 **rail industry itself; is that correct?**

24 A. That is correct. I spent 41 years with Norfolk
25 Southern Railway and its predecessor company, Norfolk

WALSH / GUTHRIE

1 and Western Railway.

2 Q. And your progression through the ranks at
3 Norfolk Southern is detailed in your prefiled testimony;
4 is that accurate?

5 A. That is correct, yes.

6 Q. When were you hired by the Port to assist with
7 rail design or rail analysis at the Port of Vancouver?

8 A. I was contacted by the Port in December of 2013
9 to do a risk analysis or risk assessment of the
10 potential for derailment of a design connection track
11 into the Port of Vancouver.

12 Q. Okay. So that we're clear with the council, the
13 connection track is what portion of the track that is
14 inside the Port of Vancouver?

15 A. That is the track that leads off of the Fall
16 Bridge subdivision that's been mentioned earlier at
17 Milepost 10.69 to the south side of the main track
18 leading into the port for approximately a little over a
19 mile, down through 6-degree curves and under the BNSF
20 trestle on into the main body of the port.

21 Q. Okay. So that is a track that precedes the T-5
22 loop that the council is probably familiar with;
23 correct?

24 A. That is correct, yes.

25 Q. And when you were hired in 2013, was it

WALSH / GUTHRIE

1 specifically in relationship to the Vancouver Energy
2 project or some other reason?

3 A. It was to take a look primarily at three
4 different types of trains, to just determine what the
5 actual risk for derailment entering the facility, as
6 well as an opportunity to provide any additional
7 recommendations to enhance the safety of the operation.

8 **Q. So it sounds like your assignment was two**
9 **prongs?**

10 A. That's correct, yes.

11 **Q. Can you explain both of those prongs to the**
12 **council?**

13 A. You're talking about the connection track
14 project itself per se?

15 **Q. Yes.**

16 A. That was to do a modeling simulation exercise
17 where we determined the longitudinal forces of all three
18 types of trains entering and leaving the facility on
19 this connection track through the 6-degree curves that
20 are part of that track design. And in that process, we
21 used two models. We used train operations simulator,
22 which is a long-standing industry standard for modeling
23 longitudinal forces, that's the drawbar forces in the
24 entire train -- (Court Reporter interruption.) Drawbar
25 coupler, drawbar forces, the devices that connect the

WALSH / GUTHRIE

1 railcars.

2 And the other part of that is analysis that we
3 refer to as Vampire which determines the LOV ratios
4 between the wheel and the rail which is the determining
5 factor of whether or not a railcar will derail on a high
6 side of a curve or possibly roll over a rail.

7 **Q. So those two modeling simulators that you used**
8 **were part of your assignment to do the risk assessment;**
9 **is that accurate?**

10 A. That is accurate, yes.

11 **Q. And then once you did the risk assessment, were**
12 **there other things that you were supposed to do for the**
13 **Port?**

14 A. Well, yes. Of course, the second part of that
15 was to determine, number one, determine whether the
16 operation or the design itself was below
17 industry-accepted thresholds for safety, which we did.
18 And of course, then the second part of that was to
19 provide recommendations to enhance the safety of
20 operation even more.

21 **Q. And the part we were just talking about was the**
22 **assessment you did of the connection track, but were you**
23 **later asked to assess other parts of the track?**

24 A. Yes. We were later asked to look at the entire
25 facility and some proposed track changes for the grain

WALSH / GUTHRIE

1 operations, as well as pot ash operations, and we did
2 those simulations. But in 2015, we were told to focus
3 strictly on the crude oil or the T-5 terminal operation.

4 **Q. So when you were focusing on the crude oil**
5 **operation, did you do the same modeling that you had**
6 **done for the connection track?**

7 A. The answer obviously is yes, we did the same
8 modeling and used the same methodology, but obviously we
9 had a much longer expanse of rail to model the trains
10 on.

11 **Q. And did you also provide recommendations to the**
12 **Port for the T-5 loop track?**

13 A. That's correct. Yes, we did.

14 **Q. In your -- so when you were doing your risk**
15 **assessment, I know you had multiple levels of assignment**
16 **here, but at some point you analyzed the entire length**
17 **of track that a train coming to Vancouver Energy would**
18 **traverse inside the Port; is that accurate?**

19 A. Yes, that's accurate. From the time it entered
20 the Port through the connection track through the track,
21 the remainder of the Port to the loop track, the T-5
22 loop track, which encompasses an unloading facility, and
23 then the returning track for the empty train all the way
24 to the switch outside the terminal.

25 **Q. Okay. So in your risk assessment portion of**

WALSH / GUTHRIE

1 your assignment, did you draw any conclusions about the
2 risk of a derailment on the Port tracks that a train
3 traversing to Vancouver Energy and back out of the Port,
4 what would be the risk of derailment?

5 A. The risk of derailment was very low.

6 **Q. And the council has had some questions about --**
7 **I'm not going to go into detail about all of your**
8 **recommendations that are contained in your report, but**
9 **the council has had some questions about your**
10 **recommendation for guardrail. So I want to ask you a**
11 **few questions about that.**

12 Can you explain to the panel what guardrail is
13 and what it's intended to do?

14 A. In the context of this discussion, and any
15 discussion for that matter, there's really two types.
16 And one is considered a high guardrail, which is located
17 at the switch or a switch which -- where a track
18 subdivides into two lines, and that switch of course
19 controls the movement of the -- the train movement from
20 one line to the other. And at that location we
21 recommended what we referred to as a high guardrail
22 which is opposite the frog.

23 Now, "frog" is a railroad term which indicates
24 the intersection of two tracks, or actually the point at
25 which the single track divides into two. And that high

WALSH / GUTHRIE

1 guardrail is designed to assure that the wheels, both
2 wheels, and the axles of the railcars take the proper
3 route.

4 The second type of guardrail that we recommended
5 is a guardrail that's not considered high, but it is the
6 same height as a running rail. And that is installed
7 inside the normal running rails, which are
8 4-foot, 8 1/2 inches apart. And those two rails assure
9 that in the event that there would be a railcar that got
10 off the rail, that it would stay on the track itself,
11 not necessarily on the rail, but it would stay on the
12 track structure, on the cross ties, and prevent the
13 railcar from overturning. And that's a standard
14 practice that's been employed by railroads since the
15 1800s, actually, primarily on bridges and other high
16 risk or potential high risk locations.

17 MS. WALSH: Your Honor, we have three photos
18 that Mr. Guthrie would like to use to demonstrate his
19 testimony, and we've conferred with counsel and they
20 don't have any objection, so at this point I would offer
21 1043, 1044 and 1045. I have copies of those if you
22 would like to look at them.

23 JUDGE NOBLE: The council would like to look
24 at them.

25 Is it correct that there's no objection to

WALSH / GUTHRIE

1 new Exhibits 1043, 1044 and 1045?

2 MS. BOYLES: That is correct.

3 MS. WALSH: Ms. Mastro also has them on the
4 overhead, but I'll approach with copies.

5 JUDGE NOBLE: Right. There's no objection.
6 They'll be admitted based upon your description of what
7 they are.

8 BY MS. WALSH:

9 **Q. Mr. Guthrie, these photos are in the front**
10 **pocket of your testimony if it helps to get a closer-up**
11 **view.**

12 MS. WALSH: Ms. Mastro, if you could put up
13 1043, please.

14 THE WITNESS: I beg your pardon?

15 BY MS. WALSH:

16 **Q. Oh, I was speaking to the audiovisual lady over**
17 **here.**

18 **Are you looking at Exhibit 1043, Mr. Guthrie?**

19 A. Yes, I am.

20 **Q. Can you identify that for the council, please?**

21 A. This is a photograph I took of the high
22 guardrail which is the main line switch off of Fall
23 Bridge subdivision that I just discussed.

24 **Q. Is this a photo of the high guarded frog that is**
25 **discussed in your written testimony?**

WALSH / GUTHRIE

1 A. That's correct.

2 Q. And I know you were explaining a frog is where
3 two rails cross. Can you point out there for the
4 council where that is in this photograph?

5 A. May I use this pointer to do so?

6 Q. Sure.

7 A. I mentioned the high guardrail, which is on the
8 running rail opposite the frog. This is it right here.
9 You can see that this piece of rail is actually higher
10 than the running rail, and it provides the wheel flange
11 to operate in between these two, assuring that the
12 railcar will actually traverse down into the connection
13 track on the facility.

14 The term "frog," and if you were out there and
15 you looked in a downward on this, you would discover
16 that this very much looks like a frog that's flattened
17 on the highway, it's been run over. And that's the
18 common terminology and the railroad terminology.

19 So this is the point in which the switch is
20 located in this direction. It will decide whether the
21 railcar goes down the connection track or stays on the
22 main track, which is this track right here. That's
23 laymen's terminology.

24 Q. Okay. And so we can see in the foreground the
25 high guardrail that you were talking about; correct?

WALSH / GUTHRIE

1 A. That's correct. That's the high guardrail that
2 I'm talking about, yes.

3 **Q. And the purpose of the high guardrail as opposed**
4 **to just a regular guardrail that you talked about**
5 **earlier is what?**

6 A. The purpose is, is to assure that the wheel
7 actually does stay properly channeled on the running
8 rail. As most people know, railcars have a tendency to
9 rock a bit. And this assures that in the case of that
10 rocking that the wheel will not lift sufficiently high
11 enough to get over that guardrail. It's generally an
12 inch to inch and three-quarters higher than a running
13 rail.

14 **Q. And this is one of your recommendations to**
15 **further improve the safety at the Port's rail system?**

16 A. It is one of our recommendations to enhance the
17 safety of the operation, correct.

18 **Q. Can you explain to the council how that high**
19 **guarded frog actually enhances the safety?**

20 A. Well, it prevents the railcar from derailing at
21 that location.

22 MS. WALSH: Ms. Mastro, could you bring up
23 1044, please?

24 BY MS. WALSH:

25 **Q. One of your other recommendations was to install**

WALSH / GUTHRIE

1 regular guardrail over a stretch of the connection
2 track; is that accurate?

3 A. Yes, that's correct.

4 **Q. And can you explain what we're looking at here**
5 **in Exhibit 1044?**

6 A. We're looking west along the connection track,
7 the new connection track. And we are just west of the
8 location that we mentioned before where the frog was
9 located, the switch.

10 This is the guardrail that we recommended that
11 lies in the interior or between the two running rails.
12 And as you can see, it has been laid or constructed all
13 the way around and for the distance. If you can see,
14 it's actually then installed for the distance of the --
15 entire distance of the connection track that we studied
16 all the way down, underneath, through the trench, and
17 underneath the BNSF bridge, along the area here that
18 is -- I understand is planned for development.

19 **Q. While we have that photo up, I'm going to have**
20 **you show the council where the guardrail is at.**

21 **But while we have the photo up in case you need**
22 **it to illustrate your testimony, can you explain how**
23 **that guardrail acts to keep any derailed train on the**
24 **road bed?**

25 A. Yes. The way that railcars steer, in this case

WALSH / GUTHRIE

1 it's a right-hand curve, the flange of the leading wheel
2 actually touches the inside of the rail, and that's
3 called the angle of attack. And that angle of attack
4 needs to be minimized as much as possible.

5 And the two ways of course you do that, the one
6 way you do that is primarily by having curvature that is
7 of what we'll call light curvature, not heavy curvature,
8 and lubrication. And of course in the case of -- in the
9 unfortunate case if a wheel did get on top of this rail
10 and ride over on the cross ties, the wheel that's
11 opposite it on the inside or interior rail would hit the
12 cross ties and be prevented from moving more than about
13 12 inches by the guardrail. And of course that's true
14 if it just happened to derail on the inside of the
15 curve, which is unlikely.

16 **Q. So if I am understanding your testimony right,**
17 **the wheels on a derailed train with that guardrail would**
18 **end up in between the rail and the guardrail?**

19 A. That's correct. They would enter -- they would
20 end up right here in the case of the scenario I
21 described. The interior wheel would be here, the
22 exterior or the outside, we call it the field location,
23 it would ride along the cross ties, but it would not
24 exit or come off of the track structure, the
25 right-of-way.

WALSH / GUTHRIE

1 **Q. Okay.**

2 MS. WALSH: And Ms. Mastro, could you bring
3 up Exhibit 1008, Page 3, please.

4 BY MS. WALSH:

5 **Q. This is a page out of your report dated**
6 **February 19, 2014, that was based on your connection**
7 **track analysis. Do you recognize that?**

8 A. Yes.

9 **Q. And can you tell the council what we're looking**
10 **at there?**

11 A. We're looking at a highlighted drawing of the
12 connection track that we simulated.

13 **Q. Can you point out for the council for reference**
14 **where is the interstate bridge, the I-5 bridge?**

15 A. The I-5 bridge is right here crossing the
16 Columbia River heading north.

17 **Q. And where is the switch where the connection**
18 **track connects to the BNSF main line?**

19 A. In railroad terminology, the "turnout" is at
20 Milepost 10.63 on the BNSF. In the Port of Vancouver,
21 we labeled it as 0.0 and at this location right here.

22 **Q. It's quite close to the interstate bridge, yes?**

23 A. Yes.

24 **Q. And then where is the overhead bridge for BNSF**
25 **traffic?**

WALSH / GUTHRIE

1 A. You'll note the BNSF bridge here.

2 Q. And I think another landmark council will be
3 familiar with is the trench. Can you point out where
4 that is?

5 A. The trench is located right through here, close
6 to the waterway.

7 Q. And can you demonstrate on this photo which
8 portion of the tracks you recommended having the
9 guardrail we were just looking at?

10 A. We recommended guardrail from the switch all the
11 way the entire distance through the trench to about this
12 location, and the Port enhanced our recommendation by
13 extending it beyond the 6-degree curveout to this
14 location.

15 Q. And it has actually been installed, the
16 guardrail?

17 A. Yes. It has been installed and inspected, yes.

18 Q. Okay. And you're satisfied with the
19 installation?

20 A. Yes.

21 Q. Could you explain to the council why you
22 recommended the guardrail in this location and how it
23 will increase the safety?

24 A. Well, first of all, I'd like to say the analysis
25 didn't show any -- didn't provide any high forces,

WALSH / GUTHRIE

1 wheel-to-rail forces or even longitudinal forces in
2 multiple types of train operations; that's normal
3 running and stopping and even emergency braking.
4 However, we were asked to provide a higher level of
5 safety if we could.

6 We're well aware that, say on Norfolk Southern
7 and CSX, for example, all bridges of 400 feet or more
8 have this similar guardrail that I have just shown you
9 to prevent railcars from getting off of the rail into
10 either girder bridges or falling over into waterways or
11 heavily traveled highways, that sort of thing. So it's
12 a standard industry practice to provide guardrail in
13 locations where the potential for a derailment, even if
14 it's a low potential derailment, might create severe
15 harm to the environment or people.

16 **Q. And what was your concern about potential harm**
17 **to the environment in this area in the event of a**
18 **derailment?**

19 A. Well, obviously, you're close to the waterway.
20 And of course there are two streets there, Esther Street
21 and Grant Street, that are overpasses and would provide
22 an opportunity if a railcar overturned to obviously hurt
23 someone, as well as create the environmental damage.

24 **Q. Could you point out approximately where the**
25 **Esther Street and Grant Street overpasses are there?**

WALSH / GUTHRIE

1 A. Esther Street is right here and Grant Street is
2 I believe in here. It's hard for me to tell, based on
3 the granularity of the photo, but it's right in here.

4 **Q. Well within the area where the guardrail has**
5 **been installed?**

6 A. That's correct. The guardrail covers the entire
7 concerned area.

8 **Q. Mr. Guthrie, in your nearly 50 years of**
9 **experience in the rail industry, have you seen any**
10 **examples of where a guardrail has actually worked to**
11 **prevent the harm that it's intended to prevent where a**
12 **train would come off the track and cause more damage?**

13 A. Yes. Yes. Obviously I have a little age on me,
14 and one of my first operating positions was road foreman
15 of the engines on the Norfolk and Western Railway in
16 Roanoke, Virginia. And not long after I had the job, we
17 had a coal train, which is made up very similarly to the
18 oil trains, 110 cars, locomotives on the head-in,
19 locomotives on the rear, pushing over a heavily traveled
20 overpass.

21 It was -- at that time it was labeled as General
22 Electric Road. And the railcars derailed south of that
23 bridge. It was a nasty derailment, 15 to 16 coal cars
24 and they were all over the place. And fortunately, we
25 had guardrail on this heavily traveled highway bridge,

WALSH / GUTHRIE

1 and that guardrail prevented not only the cars but the
2 locomotives from actually leaving the rail.

3 So as firsthand knowledge, I had to clean up
4 that derailment obviously and had to explain why we had
5 that derailment. But that's one of my first experience
6 with that sort of -- that sort of derailment.

7 **Q. In your nearly 50 years of experience in the**
8 **industry, have you ever seen an incident where there was**
9 **guardrail in place but it did not act the way it was**
10 **supposed to, to prevent that happening?**

11 A. I have not seen an example of that, no.

12 **Q. Have you reviewed the prefiled testimony of**
13 **Michael Hildebrand as offered by the City of Vancouver?**

14 A. Yes, I have.

15 **Q. And are you familiar with the scenario he lays**
16 **out at Page 19 and 20 that he calls a, I think,**
17 **worst-case scenario?**

18 A. Yes, I'm familiar with that one.

19 **Q. Just for -- since the council hasn't reviewed it**
20 **as recently as you and I, could you give them just a**
21 **brief description of what Mr. Hildebrand claims is the**
22 **worst-case scenario?**

23 A. The scenario as he laid it out was a derailment
24 of seven cars at the Esther Street overpass, and three
25 of those cars derailling and going off the overpass I

WALSH / GUTHRIE

1 believe on the interior or on the north side of the
2 rail, and there was a total of about 48,000 gallons of
3 fuel which were released, oil that was released. And I
4 believe there was fire there; I'm not certain about
5 that. But that was the gist of the scenario that he --

6 **Q. So did I understand you correctly that his**
7 **scenario included three cars on that overpass that would**
8 **actually leave the road bed and tumble down the side of**
9 **the hill?**

10 A. Yes. Three that actually left the road bed and
11 tumbled down and were punctured or damaged in such a way
12 to release crude oil.

13 **Q. Do you have any concerns about Mr. Hildebrand's**
14 **worst-case scenario?**

15 A. Yes.

16 **Q. Can you explain what they are?**

17 A. In looking at it, he doesn't explain the
18 mechanism or the cause of the derailment itself, which
19 is what we look at. We look at how to prevent the
20 derailment from occurring or why did the derailment
21 occur. And of course the subsequent release is -- it's
22 conditional upon the derailment itself.

23 He doesn't explain his assumptions or anything
24 in the scenario. He doesn't take -- obviously doesn't
25 take into account the recommendation for guardrail or

WALSH / GUTHRIE

1 the actual construction of the guardrail there. He
2 doesn't -- he also indicates that the train is operating
3 at 10 miles per hour.

4 Now, the maximum speed in this facility is
5 10 miles per hour, but the BNSF train crews that will be
6 operating the train entering the facility most likely --
7 well, will not be operating at that speed. They'll be
8 operating at a slower speed.

9 First of all, they have to -- the signal will
10 provide them to operate into the facility at restricted
11 speed and that means, in railroad terminology, they have
12 to be looking out for any type of obstruction, manual
13 switch that's not properly aligned, anything that would
14 prevent safe operation into the facility. And given a
15 site visibility at that location, they're going to most
16 likely be operating at somewhere around 5 to 6, 7 miles
17 per hour, in which case they will creep into the
18 facility until they get better visibility of switches
19 and so forth.

20 But in my opinion, being a supervisor of
21 locomotive engineers, it's not likely that they would
22 take the chance of operating at 10 when they may not be
23 able to stop the train prior to hitting an obstruction
24 of some sort. So that's my concern.

25 And in his scenario, of course he describes

WALSH / GUTHRIE

1 three cars not only derailling but overturning. But at
2 such a slow speed and with the guardrail it's highly
3 unlikely, in my opinion, that you're going to see a
4 railcar or crude oil tank car overturn. And then
5 there's no opportunity -- who doesn't overturn and
6 there's no subsequent collision of railcars, then
7 there's no opportunity for puncture or release of
8 product.

9 **Q. And I think you just said this, but just to be**
10 **clear, what is your opinion on how likely it is that**
11 **that worst-case scenario would happen?**

12 A. I think it's unlikely, actually. And we do a
13 lot of derailment analyses at TUV Rheinland for BNSF, UP
14 and all the Class 1 railroads.

15 MS. WALSH: Ms. Mastro, would you put up
16 1045, please?

17 BY MS. WALSH:

18 **Q. Mr. Guthrie, you have been out to the Port**
19 **several times, both before and after they constructed**
20 **the tracks; is that right?**

21 A. That's correct, yes.

22 **Q. And can you identify what we're looking at here**
23 **in Exhibit 1045?**

24 A. We're looking at newly constructed loop track,
25 T-5 loop track.

WALSH / GUTHRIE

1 **Q. And that's actually out in the loop area?**

2 A. That's correct. It's actually in the Terminal 5
3 loop that's been designed for crude oil only.

4 **Q. And can you point out for the council what kind**
5 **of ties and fasteners are used here?**

6 A. We recommended either timber or concrete ties.
7 They use timber ties in a connection track primarily
8 because of the guardrail, installation of the additional
9 rail in that section of track. But after you get out of
10 that connection track, then the loop tracks themselves
11 have concrete ties and what we call Pandrol connectors
12 and 136-pound continuously welded rail.

13 So what you're seeing here is rail that is a
14 continuous ribbon all the way around the facility, and
15 instead of having bolted joints, it's welded joints.
16 And this is some of the best track I've seen in industry
17 sites anywhere, anywhere, based on the quality of
18 construction and the quality of materials.

19 **Q. So that continuously welded rail and the ties**
20 **were recommendations that you made for enhanced safety;**
21 **is that accurate?**

22 A. That's true, yes.

23 **Q. And can you give us an example of how this**
24 **compares to other industry track that you've seen over**
25 **your decades of experience?**

WALSH / GUTHRIE

1 A. Well, I can say that this track has been
2 constructed to Class 2 to Class 3 standards, main line
3 standards. And Class 2 track is good for 25 miles per
4 hour by FRA 213 specifications. Class 3 is good for
5 40 miles per hour.

6 Now, I'm not suggesting that trains will operate
7 at that speed; quite the contrary. But the construction
8 itself is equivalent to mainline construction, and I've
9 seen a lot of it. It's excellent, it's excellent track,
10 brand new track. It's fantastic.

11 **Q. And how does it compare to other industry track**
12 **that you've seen?**

13 A. Well, it's far superior, exceeds anything that
14 I've seen in any other industry track. And I'm very
15 familiar with the East Coast terminals for loading coal
16 and containers and that sort of thing.

17 MS. WALSH: Thank you, Mr. Guthrie. I have
18 no more questions.

19 JUDGE NOBLE: Cross-examination of
20 Mr. Guthrie?

21 Ms. Reed?

22 MS. REED: Thank you, Your Honor.

23
24 ///

25 ///

REED / GUTHRIE

CROSS-EXAMINATION

1
2 BY MS. REED:

3 Q. My name is Karen Reed and I represent the City
4 of Vancouver. Good morning, Mr. Guthrie.

5 A. Good morning.

6 MS. REED: Ms. Mastro, I'm going to be
7 referring to Exhibit 1008, Page 3, which was discussed
8 during the direct testimony. But I have another
9 question first while you're getting that up.

10 BY MS. REED:

11 Q. Mr. Guthrie, are you aware of any derailments
12 that have occurred at speeds under 10 miles per hour?

13 A. Yes.

14 Q. And are you aware of any derailments that have
15 occurred at speeds under 5 miles per hour?

16 A. Yes.

17 Q. And how many derailments are you aware of that
18 have occurred at speeds under 5 miles per hour?

19 A. I have no -- I've not done any research into the
20 numbers. I don't have an answer.

21 Q. Okay. Do you know whether any of those have
22 been unit trains?

23 A. I'm not aware of any unit trains at that speed.

24 Q. Okay. All right. With respect to this
25 Exhibit 1008, Page 3, that you were discussing a minute

REED / GUTHRIE

1 ago, I had some questions about the switches. And you
2 mentioned the switches.

3 So you mentioned at Milepost, was it 10, around
4 10-point something that the switch -- there's a switch
5 from the BNSF track to the port system?

6 A. Yes, that's correct. That switch is located on
7 this photograph right here.

8 JUDGE NOBLE: Mr. Guthrie, we can't hear
9 you. You need to keep the microphone.

10 THE WITNESS: I'm sorry, Your Honor.

11 That switch is located right here at this
12 location.

13 BY MS. REED:

14 Q. Okay. And that's the switch that goes on to the
15 new -- I'm sorry, the new port track that goes through
16 the trench?

17 A. That's correct, yes.

18 Q. Okay. Could you indicate with a pointer where
19 the old switch was before the trench was constructed for
20 the BNSF -- if a train were on the BNSF line to turn off
21 into the port?

22 A. I'm actually not aware of where that was. We
23 received design drawings that showed the new location
24 and that's what we used. So I'm not aware where the old
25 switch was located.

1 **Q. Okay. Are you aware that the unit trains**
2 **proposed by the applicant would be approximately**
3 **7,800 feet long?**

4 A. Actually, a little less, but that's a good
5 approximation, yes.

6 **Q. Okay. And are you aware of the route that those**
7 **unit trains would take when they enter the facility and**
8 **unload and then on their way out, if they wanted to head**
9 **north, are you aware how they would be routed through**
10 **the Port facility to then head north?**

11 A. Actually, we did not look at that scenario.

12 **Q. Okay.**

13 MR. REED: I have no further questions.
14 Thank you.

15 JUDGE NOBLE: Any other cross of
16 Mr. Guthrie? Redirect?

17 MS. WALSH: No, Your Honor.

18 JUDGE NOBLE: Council questions?

19 Mr. Shafer.

20 MR. SHAFER: Mr. Guthrie, thank you very
21 much for your testimony. So I take it that you've been
22 working for and significantly involved with the Port for
23 about three years in the consulting role.

24 And my question is, did the Port complete
25 all your recommendations or would you say that you're

1 satisfied with -- between what you may have observed or
2 recommended or worked with the Port on and then seeing
3 that finally installed, or would you consider that
4 there's work yet there to do or any gaps? Do you have
5 any thoughts on any additional improvements that you
6 would recommend?

7 THE WITNESS: No. Actually, they
8 implemented all of the recommendations that we -- they
9 implemented or plan to implement all the
10 recommendations, assuming approval by the council and
11 the governor. So the recommendations were all
12 complied -- or actually all implemented, yes.

13 MR. SHAFER: Okay. Thank you.

14 THE WITNESS: Sorry I couldn't get that out.
15 I was trying to. My mouth is dry.

16 JUDGE NOBLE: Mr. Snodgrass, did you have a
17 question?

18 MR. SNODGRASS: I did. Just one question.

19 You had mentioned that the guardrail is
20 standard industry practice. Is that in areas of higher
21 speed or is it typically at lower speeds?

22 THE WITNESS: It can be both. I think the
23 industry obviously is concerned about safety of any type
24 of operation, but particularly on bridges because of the
25 obvious impact either on the environment or the public.

1 So that's where you see guardrail most always installed
2 on all Class 1 railroads. And that's probably true with
3 regional and short lines as well. So I think that
4 answers your question.

5 MR. SNODGRASS: It does. Thank you.

6 JUDGE NOBLE: Any other questions to my
7 right?

8 Mr. Stephenson?

9 MR. STEPHENSON: Thank you, Mr. Guthrie.
10 Two questions.

11 One, you said -- I wrote it down -- the risk
12 of derailment is very low. And yesterday we heard
13 testimony on risk assessments and sometimes those were
14 orders of magnitude different, so can you give us an
15 idea of what your number is?

16 THE WITNESS: Yes. Yes. We use four
17 measures, and primarily it's called L over V ratio,
18 lateral over vertical force ratio. And in my reports,
19 the last report of this year, there's actually a photo
20 in there that shows the relationship of the railcar
21 wheel and the rail.

22 And basically what the L over V ratio is, is
23 the downward force applied to the rail by the wheel, and
24 the lateral force applied by the wheel as well because
25 of the rail flange in a curve. And that's the location

1 that you're most likely to encounter derailment
2 potential condition -- potential conditions.

3 So as an example, if a railcar is
4 286,000 pounds, and that equates to about 35,000 pounds
5 of vertical force, that's a fully-loaded crude oil tank
6 car which has eight wheels. And that 35,000 pounds
7 vertical, if there is an equal 35,000 pounds of lateral
8 force due to centrifugal force in the curve or some
9 other factor, then you can see that ratio would be 1:1.
10 That's a very dangerous condition. What that means is
11 the lateral force will exceed the vertical force and the
12 railcar wheel can ride up over the top of the rail or
13 roll the rail over.

14 Now, in this case, the danger of rail
15 rollover is very slim, and that's because of the
16 construction that's in the Port. As I said, it's
17 Class 2, Class 3 main line track construction,
18 continuously welded rail properly anchored and secured
19 with new cross ties, concrete and proper ballast
20 selection. So it's unlikely that you're going to ever
21 see that kind of conditions.

22 In the rail industry, it's -- the design is
23 one, the L over V ratio is one. We measure against
24 that. And what we measure, the entire -- entering
25 around the loop and exiting, we measured forces of no

1 more than .7, which is excellent, because you have 8 1/2
2 and 7 1/2 degree curves down in the loop track area. So
3 we're very comfortable and confident that the design of
4 the track itself is safe.

5 We also looked at wheel unloading. The
6 chapter -- AAR Chapter 13 standard that we use is that
7 the wheel unloading cannot unload more than -- no less
8 than 10 percent, which means that you only have
9 10 percent of the weight on the wheel. And in our
10 measurements, we were much higher than that, in the
11 neighborhood of about 80 percent loading on the rail.

12 So the wheel is not likely to lift off the
13 rail at all. And we measure it using the most
14 conservative type of analysis in the sense that we use a
15 maximum drawbar force and maximum forces applied to the
16 sharpest curves in the facility.

17 Now, in all likelihood, that's not going to
18 occur at that particular location if we have a slack
19 event, for example. So we use conservative results. I
20 may have been a bit verbose, but .7 is a measure that we
21 feel comfortable with.

22 MR. STEPHENSON: Thank you.

23 My second and last question is, so we're
24 doing some good design for -- at the terminal where the
25 speeds are 5, 6 or 7 miles an hour or maybe slower when

1 it stops.

2 Are there things you would think should be
3 done for the rest of the rail line where the speeds are
4 faster outside of the terminal?

5 THE WITNESS: Well, we do -- we make
6 recommendations to BNSF and UP and all the railroads.
7 However, without more information, without understanding
8 the track geometry at locations from Idaho to the port,
9 I would be -- I couldn't comment on that because I
10 wouldn't have any data to support any kind of comment.

11 JUDGE NOBLE: Mr. Moss?

12 MR. MOSS: Still good morning.

13 THE WITNESS: Good morning, sir.

14 MR. MOSS: One of the concerns we have in
15 this particular situation is seismic risk. This is a
16 seismically active area.

17 Is that something that you consider at all
18 in your analyses of the risk of operating in the
19 terminal?

20 THE WITNESS: We have done approximately
21 four of these type of analyses since I've been at TUV
22 Rheinland on the West Coast. We've done more than that,
23 but on the West Coast, and some you're probably familiar
24 with.

25 In none of those have we been provided any

1 request to look at conditions based on seismic or
2 earthquakes at all. We just -- that's not been part of
3 our charge, of our scope.

4 MR. MOSS: Is it within your expertise to do
5 it?

6 THE WITNESS: No, sir. I'm not a civil
7 engineer, I'm an industrial electrical engineer. But
8 it's not within my expertise.

9 MR. MOSS: Okay. Thank you.

10 JUDGE NOBLE: Other questions?

11 Mr. Siemann?

12 MR. SIEMANN: Thank you also for your
13 testimony today.

14 Following up on the question of seismic, do
15 you have any sense of the tolerance of the tracks to
16 withstand differential -- so as I said earlier, there's
17 a possibility of a seismic event, that tracks could --
18 are in a liquefaction zone and so could sink 6 to
19 24 inches.

20 Any sense of what that would do to a loaded
21 unit train?

22 THE WITNESS: Well, it would be difficult
23 for me to comment on that because I'd have to make some
24 broad assumptions about movement, location, and that
25 sort of thing. As I said before, we just generally

1 don't -- have not been asked, I shouldn't say. We
2 don't -- we have not been asked to look at earthquake
3 conditions, railcar movements and the result of any type
4 of seismic action on the forces in the train itself.

5 MR. SIEMANN: Got it. I wanted to ask you a
6 couple questions about your prefiled testimony.

7 So you mentioned that you've been involved
8 with approximately 35 derailment analyses, and I'm
9 curious if you can just generally, what are the most
10 common causes of derailments that you've seen among
11 those?

12 THE WITNESS: And FRA statistics support
13 this; track related.

14 MR. SIEMANN: What does that mean exactly,
15 track related?

16 THE WITNESS: That means where you have
17 either a broken rail, improper geometry, possibly a
18 switch malfunction, that sort of thing. Strictly track
19 related.

20 MR. SIEMANN: And what causes those
21 track-related problems?

22 THE WITNESS: Poor maintenance generally.

23 MR. SIEMANN: Okay. So there's been some
24 concern that a unit crude train is perhaps heavier or
25 might have -- affect tracks differently than other

1 trains might. So in your experience, are there any
2 pressures or wear and tear on tracks that a crude unit
3 train might create that would be different than or more
4 severe than other kinds of trains that might be shorter
5 or with less load?

6 THE WITNESS: Well, it's generally true that
7 a shorter train is going to provide less force in train
8 forces and, therefore, less wear on the inside of the
9 rail. But if you're comparing equivalently weighted
10 trains, let's say the entire weight of the train, there
11 would be no difference.

12 So in other words, I'll say the question you
13 asked. In other words, if you had a 120-car unit crude
14 oil train versus 120-car coal train or 120-car grain
15 train, which is more likely to occur, there would be no
16 difference in our expectation of the forces in the train
17 nor on the rail itself. No difference.

18 MR. SIEMANN: So what you were saying
19 earlier is the difference is only if there are variable
20 weights of the cars?

21 THE WITNESS: Well, what I'm saying is you
22 can imagine if you have a train with two cars versus a
23 train with 100 cars, the two-car train is not going to
24 cause a lot of wear or not going to be problematic in
25 any sense. But, so I think a proper comparison would be

1 to compare equivalent.

2 In answer to your question, 120-car unit
3 train, whether it's crude oil or coal or grain, is not
4 unusual in any railroad in the United States. We
5 operate -- on the East Coast we operate unit trains of
6 210 cars of coal. Now, you can imagine
7 that's equivalently weighted to a 286,000-pound car. So
8 constantly we're monitoring that on Norfolk Southern.

9 MR. SIEMANN: Okay. That's helpful, thank
10 you.

11 And there's a lot of discussion about the
12 guardrails which are typically installed at bridges, as
13 I understood.

14 Do you know if these guardrails are
15 installed along the Columbia River rail lines?

16 THE WITNESS: I didn't -- I was never
17 provided any of that, wasn't asked to look at that, so I
18 really don't know and I've not done any inspection of
19 the track.

20 MR. SIEMANN: Okay. And I think my last
21 question is, has there been any consideration of adding
22 additional tracks for unloading in Area 200, to your
23 knowledge?

24 THE WITNESS: Would you repeat the question?
25 I'm not sure I understood.

1 MR. SIEMANN: So in the site itself,
2 Area 200 is the unloading area, and currently I believe
3 there are -- there's room for three -- the plan is to
4 unload three unit trains potentially simultaneously or
5 have the capacity for that.

6 Has there been any discussion of adding more
7 capacity?

8 THE WITNESS: Not with us, no.

9 MR. SIEMANN: Okay. Thank you. No further
10 questions.

11 JUDGE NOBLE: Mr. Rossman?

12 MR. ROSSMAN: Thank you for your testimony
13 today.

14 On the seismic issue again, and I recognize
15 seismic isn't your area of expertise, but are you
16 familiar with general sort of track standards as to the
17 substrate that the track should be placed on? You
18 testified a lot about the construction of the track
19 itself.

20 THE WITNESS: Just generally, but not in any
21 detailed sense. As far as track engineering is
22 concerned, I've not been involved in any design of
23 track. I've evaluated it, but not design of it. Other
24 than in the facilities themselves. I guess I'm not
25 answering this correctly.

1 What I'm trying to say is in the context of
2 seismic, I have not been involved.

3 MR. ROSSMAN: But generally speaking, in
4 terms of allowable amounts of tilt of the track
5 horizontally or dips and rises, things of that nature,
6 are there standards?

7 THE WITNESS: I'm not aware of any. Now,
8 there are seismic standards on bridges, but I'm not
9 aware of the track itself.

10 MR. ROSSMAN: Not speaking about seismic
11 specifically, but just thinking of the angle at which a
12 track could be, I imagine they need to be relatively
13 flat horizontally. Is that not the case?

14 THE WITNESS: That's actually not the case,
15 depending upon the speed of the train that are expected
16 to operate. Obviously, freight trains generally operate
17 no faster than somewhere in the neighborhood of 70 miles
18 per hour for an intermodal train. And those tracks
19 generally have what we call super elevated outside
20 curves so that the equilibrium of the car is in the
21 center of the track and your centrifugal forces doesn't
22 force the car off the high rail.

23 So the higher the speed the more what we
24 call super elevation is added to the high side of the
25 curve. Now, in yard tracks like you have in the Port of

1 Vancouver, everything is relatively flat because the
2 speed is so low. If you had super elevated tracks, then
3 you would have problems with wear on the rail and
4 potential steering problems as well of the railcars.

5 MR. ROSSMAN: What you're describing is
6 similar to how a road would be banked around a curve?

7 THE WITNESS: Yes, very much. If you were
8 at Daytona and you were at the track, you would see an
9 extreme example of a super elevation in the curves.

10 MR. ROSSMAN: Got it. Thank you.

11 JUDGE NOBLE: I have a question.

12 You were talking about weight of the trains
13 and you were mentioning the coal trains. And I was
14 wondering whether there was any effect of having liquid
15 inside of the cars, the train splits with regard to
16 sloshing of the product or anything like that.

17 THE WITNESS: We've never been asked to
18 simulate anything like that, and to the best of my
19 knowledge, there's not really any work been done in the
20 industry to determine the impact of hydraulic movement
21 inside the tank cars. Now, there's some work been done
22 outside the country looking at certain movements, but
23 it's never been an applications exercise to determine
24 what the real impact on the railroad would be.

25 And to my knowledge, and I've been on a lot

1 of trains with liquid, to my knowledge from an
2 operational perspective, there's really no difference in
3 operating a crude oil train versus a coal train, because
4 the cars are homogeneous in their nature and they behave
5 the same way, and whether you're braking or accelerating
6 you anticipate -- you will -- you have a sense of what
7 to expect as far as seat-of-the-pants feel and that sort
8 of thing in the movement of the train.

9 So I guess the bottom line is you wouldn't
10 expect any additional slack or dynamic forces in the
11 train with a crude oil train versus a coal train of the
12 same length and weight and locomotive makeup. These
13 trains, you know, have locomotives on the head-in and
14 locomotives on the rear end, or radio-controlled.
15 Distributive power is what -- is how we refer to it.

16 So that in and of itself mitigates the
17 dynamic forces in trains as it negotiates track geometry
18 from Point A to Point B, the fact that you have
19 locomotives on both ends.

20 JUDGE NOBLE: Thank you, Mr. Guthrie.

21 We have another question from Mr. Snodgrass.

22 MR. SNODGRASS: Just a follow-up question.

23 You had mentioned it was somewhat obvious
24 that a shorter train would have less wear. Is there --
25 to your knowledge or in the industry is there some

1 general thresholds that in other words is a train of a
2 certain weight, strictly for the purposes of wear on the
3 tracks, is there any bright lines, benchmarks, rules of
4 thumb or considerations of trains of a certain weight or
5 a number of cars generally are kind of heavy wear or
6 not, or is it strictly a continuum between your example
7 of 2 cars versus 110?

8 THE WITNESS: There's not really any
9 standard, to answer your question. It's clear that the
10 engineering departments on the Class 1 railroads, all
11 the railroads, are constantly monitoring routes that
12 have heavy gross ton miles or heavy trains operating on
13 them. It's clear that they look at that. And that's --
14 you know, that's an economic decision and obviously you
15 want to keep your costs down.

16 So what they tend to do in those situations
17 where there's wear, they lower the speed on the maximum
18 authorized speed, and that in and of itself will
19 decrease the wear on the rail.

20 MR. SNODGRASS: You mentioned heavy trains.
21 I mean, what is a heavy train?

22 THE WITNESS: Oh, well, I guess that's
23 probably certainly -- could be a range of trains. But I
24 would think anything of a nature of somewhere in the
25 neighborhood of 13,000 tons up, you know, 12,000 tons

WALSH / GUTHRIE

1 up, yeah. Something like that. And it's probably --
2 the answer to the question is it's relative, I think, to
3 the track itself. You know, a heavy train is not a
4 problem in any sense on completely level track, level,
5 straight track. I mean, there's no real dynamic forces
6 going on. But once you start adding elevation and
7 curvature, then you start to see resistance in the --
8 track resistance to the wheels. And so that presents
9 the problems of rail wear and things of the nature we're
10 talking about, derailment conditions if not properly
11 maintained.

12 MR. SNODGRASS: Thank you.

13 JUDGE NOBLE: I think there are no more
14 council questions now.

15 Questions based on council questions? Are
16 there any?

17 MS. REED: No, Your Honor. You anticipated
18 my question.

19 JUDGE NOBLE: Are there any questions from
20 the proponents?

21 MS. WALSH: Just very briefly.

22 First of all, to address Council
23 Member Stephenson's questions related to the L over V
24 ratios and the risk of derailment based on that, if you
25 want to learn more about that you can look at Exhibit

WALSH / GUTHRIE

1 1010, Page 4 or Exhibit 1009, Page 11, lays out fairly
2 well what that is.

3 REDIRECT EXAMINATION

4 BY MS. WALSH:

5 Q. Then a couple questions for you, Mr. Guthrie.

6 Circling back to the seismic question, just to
7 wrap that up, I think I heard you say that you have
8 worked on four projects on the West Coast where you have
9 not been asked to look at seismic issues; is that right?

10 A. Yes. One in Washington and three in British
11 Columbia, yes.

12 Q. Vancouver, B.C., is that where those two were?

13 A. Yes.

14 Q. And one in Longview?

15 A. That's correct.

16 Q. Then with regard to your recommendations to the
17 Port, one of the council members asked you if all your
18 recommendations had been implemented. I want to just be
19 clear on that.

20 With regard to the connection track which was
21 the stretch that had the guardrail in it, have all of
22 your recommendations been implemented by the Port?

23 A. Yes.

24 Q. And with regard to the T-5 loop where the
25 unloading facility is, what do you know about your

WALSH / GUTHRIE

1 recommendations being implemented or the plans to
2 implement those?

3 A. We recommended lubrication in 7 1/2- and
4 8-degree curves, and it's my understanding that --
5 (Court Reporter interruption.) I normally talk slow;
6 I'm from the South. (Laughter.)

7 We recommended lubrication in the 7 1/2- and
8 8-degree curves in the T-5 loop track. And at my last
9 inspection, there were plans to install those but they
10 hadn't been installed at that time. And neither had the
11 track been completed either.

12 So there was reason for not having the
13 installation completed. But everything else as I recall
14 has been implemented and constructed.

15 **Q. And that lubricator that you're talking about at**
16 **T-5, you also recommended one of those on the connection**
17 **track?**

18 A. Actually, that's been installed.

19 **Q. Okay. Fantastic.**

20 **That's an automatic lubricator. Can you explain**
21 **just briefly to the council how that works?**

22 A. Yes. It's a stationary lubricator which has a
23 vegetable oil-based lubricant that will lubricate the
24 track by the passing of a railcar about a mile in each
25 direction of the lubricator. It's been strategically

1 positioned so that it covers the 6-degree curves that
2 are on the connection track. There are three of those.

3 The recommendation to install the lubricator is
4 not something that we normally would recommend, but in
5 this particular case, we were asked to go above and
6 beyond as far as safety was concerned. And what that
7 lubricator does, along in conjunction with the guardrail
8 in particular, it assures that the railcars themselves
9 will steer properly, less adhesion, less friction
10 between the flange and the rail, and, therefore, the
11 decreased probability of potential for any type of
12 derailment condition.

13 MS. WALSH: Thank you. I don't have any
14 further questions.

15 JUDGE NOBLE: Thank you.

16 Mr. Guthrie, thank you very much for your
17 testimony today. You are excused as a witness.

18 THE WITNESS: Thank you, Your Honor, and to
19 council.

20 JUDGE NOBLE: And we've come to the lunch
21 hour. It is 12:07, so we will reconvene at 1:10. If --
22 council should let me know if there's anything we need
23 to do off the record before then. In the meantime, we
24 are off the record.

25 (Lunch break.)

1 JUDGE NOBLE: We're back on the record.

2 Call your next witness, please.

3 MR. KISIELIUS: Yes, Your Honor. But before
4 we do, I just had a few quick bookkeeping items.

5 THE COURT: Sure.

6 MR. KISIELIUS: The next witness we're about
7 to call is going to be referring to Exhibit 238, and I
8 understand that Columbia Riverkeeper had reserved an
9 objection initially when this was discussed last
10 Thursday, but since then, I have conferred with counsel
11 and I understand there are no objections to the entry of
12 that exhibit.

13 JUDGE NOBLE: That's the API recommended
14 practice?

15 MR. KISIELIUS: Correct.

16 JUDGE NOBLE: All right. And it was also --
17 the waterfront project also had an objection?

18 MS. BOYLES: Both objections are withdrawn,
19 Your Honor.

20 JUDGE NOBLE: Okay. In that case, Exhibit
21 Number 238 will be admitted.

22 MR. KISIELIUS: Item 2 on a three-item
23 bookkeeping list, this witness will be rebutting Fred
24 Millar's testimony. There's an outstanding objection to
25 his testimony, but we believe we can capture the

1 rebuttal within the portions of his testimony that were
2 not subject to the objection, so he'll be talking about
3 that, but just wanted to clarify.

4 MS. BRIMMER: I thought all of the
5 objections were ruled on yesterday on testimony.

6 JUDGE NOBLE: They were. It was already
7 ruled on, but some of Mr. Millar's testimony was
8 stricken, I think.

9 MR. KISIELIUS: I think it was, as I recall,
10 that Mr. Millar needed to lay additional foundation to
11 testify to certain topics. That's my recollection.

12 MS. BRIMMER: Let me get my list.

13 MR. KISIELIUS: Sure.

14 MS. BRIMMER: It's true that I think that
15 you had ruled that you wanted to see a bit more detail
16 about Mr. Millar's background. I don't think that's an
17 outstanding objection. Obviously we will provide that
18 detail. So I'm a little unclear on what's still
19 outstanding.

20 JUDGE NOBLE: Well, I did want to see
21 more -- I had a question about whether his CV was
22 attached, was it an exhibit. And then I said that I
23 needed more testimony on his qualifications, such as
24 educational background, length of time working in the
25 field of analyzing rail transportation of oil.

1 MS. BRIMMER: We did respond. His CV is an
2 exhibit, yes.

3 JUDGE NOBLE: While we're on that subject,
4 what's the number, do you know? I can find that.
5 That's all right.

6 So that was the only thing about
7 Mr. Millar's testimony that was left undone, just needed
8 a little bit more qualification for foundation.

9 MR. KISIELIUS: Correct.

10 MS. BRIMMER: The CV is at Exhibit 5556.

11 MR. KISIELIUS: My only clarification was
12 that, as I understood it, we were still waiting on a
13 little bit more testimony from Mr. Millar to back up his
14 qualifications to speak to certain topics. And I
15 understand that's still forthcoming, more than just the
16 entry of the CV.

17 JUDGE NOBLE: Yes, it is. Just -- the
18 objection was that he was not qualified to assess risks
19 in rail transportation, and so I assume that testimony
20 is going to be forthcoming. But if some part of his
21 testimony is referred -- you're going to skirt around
22 the testimony to make sure that you don't --

23 MR. KISIELIUS: I believe that we can, yes.

24 JUDGE NOBLE: -- refer to the testimony
25 that's not yet allowed?

1 MR. KISIELIUS: Yes.

2 JUDGE NOBLE: Okay, good. Thank you.

3 Was there a third thing?

4 MR. KISIELIUS: There was. It was more just
5 for purposes of orienting the council to the testimony
6 on this topic generally.

7 We're doing our best, as you know, to try to
8 group our witnesses around issues. And you've heard
9 this will be the third witness to address rail issues
10 today, but I wanted to clarify that that's not the full
11 extent of the witnesses that will address this topic.
12 As you may recall, one of our witnesses has a medical
13 issue that is forcing us to push him later in the
14 proceeding. There's also another witness who, because
15 he's traveling from out of town, will be appearing later
16 in our case-in-chief.

17 So I just wanted to clarify that there's
18 going to be more rail testimony, just not today, after
19 Mr. Hack finishes his.

20 JUDGE NOBLE: No, I understand that. And
21 the part of the reason why we are asking the testimony
22 be grouped is that we have a rule that requires that --
23 and I presume that's for the benefit of the public so
24 they can pay particular attention when they have
25 particular interests. But I also understand that

KISIELIUS / HACK

1 putting on litigation such as this involves witnesses
2 that have to be scheduled and brought here, and so I
3 think it's necessary to be tolerant of that. I have no
4 problem with it.

5 MR. KISIELIUS: Thank you, Your Honor.

6 The applicant would like to call John Hack
7 for our next witness.

8 JUDGE NOBLE: Mr. Hack, would you raise your
9 right hand, please.

10 JOHN HACK,

11 having been first duly sworn, testified as follows:

12 JUDGE NOBLE: You may continue.

13 DIRECT EXAMINATION

14 BY MR. KISIELIUS:

15 Q. Mr. Hack, could you please state and spell your
16 name for the record.

17 A. Yes. My name is John Hack. J-o-h-n, H-a-c-k.

18 Q. And can you -- let me ask, did you prepare a
19 prefiled written testimony?

20 A. Yes, I did.

21 Q. Okay. And I know this is covered in some more
22 detail in your prefiled statement, but could you please
23 tell us your occupation and your title?

24 A. I'm a senior manager of rail operations for
25 Tesoro.

KISIELIUS / HACK

1 **Q. And what are your job duties as the senior**
2 **manager of rail operations?**

3 A. In my role at Tesoro, my department oversees all
4 the movements of rail for Tesoro. We participate in
5 negotiations with carriers. I follow the regulations to
6 account for changes that apply to tank cars as well as
7 shipping operations. I'm also familiar with our Fryburg
8 and Anacortes facilities and provide advisory rail
9 information to both of those facilities.

10 **Q. Are you involved in Tesoro's railcar**
11 **acquisitions?**

12 A. Yes, I am. Tesoro relies on information from me
13 to make decisions on what type of tank cars we will
14 lease, and so I do provide that business need as well as
15 what I believe to be the proper specs for our needs.

16 **Q. Okay. And before joining Tesoro, did you have**
17 **any other experience in the rail industry?**

18 A. Yes. I worked from 2008 to 2013, I worked for
19 Ameren, which is a company in St. Louis utility where I
20 moved coal trains for five years to support our utility
21 operations in Missouri and Illinois. Prior to that,
22 from 2004 to 2008, I worked as a train dispatcher and
23 split that time between Union Pacific and BNSF Railway.

24 **Q. And of your rail experience, have you had to**
25 **deal with transport of hazardous material cargo?**

KISIELIUS / HACK

1 A. Yes. As manager, senior manager of rail
2 operations for Tesoro, I oversee all those shipments,
3 and the vast majority of what we ship is hazardous
4 materials.

5 Q. Okay. I want to start by asking you some
6 questions about responsibilities for transportation of
7 cargo generally, which you address in your testimony,
8 but I'd like to focus on obligations for the care and
9 custody of the cargo.

10 Maybe to start with, just for framework, could
11 you provide a brief overview of the regulatory framework
12 that governs the transportation of hazardous materials
13 by rail?

14 A. Sure. There are extensive regulations that
15 govern the transportation of hazardous materials by
16 rail, and primarily fall under the U.S. Department of
17 Transportation umbrella, and under that umbrella you
18 have the PHMSA who will regulate both the classification
19 of hazardous materials as well as packaging and
20 securement of those materials. And then you have the
21 Federal Railroad Administration who will regulate the
22 actual operations of the carriers and the inspections of
23 the rail track, et cetera.

24 Q. Okay. And we'll get into some of those in a
25 little bit more detail, but I want to also start with

KISIELIUS / HACK

1 just framework questions and basic terminology.

2 I know there's more detail in your written
3 statement, but just for clarity, can you describe what
4 the terms "shipper" and "carrier" mean?

5 A. The shipper is the offeror. They are the party
6 responsible for offering the commodity into
7 transportation. The carrier, in my business, is the
8 railroad, the BNSF primarily.

9 **Q. So by way of example, in your role for Tesoro,**
10 **Tesoro is acting in which role?**

11 A. We are the shipper.

12 **Q. And who is the carrier for shipments to, for**
13 **example, the Anacortes facility that you described?**

14 A. That would be BNSF Railway.

15 **Q. So let's talk a little bit now with the shipper**
16 **and the carrier. I want to start with regulations**
17 **governing packing of the cargo.**

18 **In general, and I know there's more detail again**
19 **in your written statement, what must a shipper do before**
20 **offering hazardous material for shipment?**

21 A. The shipper must comply with what's outlined in
22 49 CFR 173.22 -- (Court Reporter interruption.) 49 CFR
23 173.22, and these are the shipper responsibilities.
24 What's most important is proper classification of the
25 material. You must know what you're shipping, and then

KISIELIUS / HACK

1 once you identify the material, identify it, assign it
2 to the proper hazard class and assign the proper packing
3 group, if applicable, and then there are further
4 requirements on selecting the proper package to
5 transport that material, labeling, placarding, ensuring
6 the proper paperwork is filed, as well as providing
7 emergency response information for the shipment.

8 **Q. When you say "selecting the proper package," the**
9 **package refers to what?**

10 A. In this case it refers to tank cars.

11 **Q. I'm going to ask you to drill down on those in**
12 **some more detail in a little bit, but let's just start**
13 **first with this concept of care and custody for the**
14 **cargo. There's been some questions that have come up in**
15 **the last couple of days, and Mr. Haugstad talked about**
16 **it, the other end of the terminal, from the terminal to**
17 **the vessel. I'd like to ask you some questions about**
18 **the front end on the rail side.**

19 **First and foremost, what does "care and custody"**
20 **mean to you?**

21 A. To me, it's who has possession of the material
22 and who's responsible for it at any given time.
23 However, care and custody should not be confused or in
24 some way imply ownership of the commodity.

25 **Q. So let's start with the shipper, the offeror, as**

KISIELIUS / HACK

1 you said.

2 Does the offeror ever have responsibility for
3 the care and custody of cargo?

4 A. Yes. At the origin terminal, the offeror would
5 have care and custody of the train and the cargo before
6 they release that train for transportation.

7 **Q. Okay. And does that ever switch over to the**
8 **carrier?**

9 A. Yes. Once the material has been offered into
10 transportation and the railroad has accepted the billing
11 or the waybill, the shipment documents, and then when
12 the railroad crew comes to pick up that train and
13 departs with it, as soon as they depart with the train,
14 it is under their care and custody.

15 **Q. Okay. And how about at the end of the rail**
16 **route? When does that switch over to the facility?**

17 A. The term we use is "constructively placed."
18 When the railroad arrives at the facility at the
19 designated point and their crew gets off the train, they
20 thus hand over care and custody to the terminal that's
21 receiving it.

22 **Q. Okay. So there's a designated point?**

23 A. At the facility, yes, there's a designated point
24 where BNSF would deliver the train.

25 **Q. You had distinguished from -- this whole care**

KISIELIUS / HACK

1 and custody concept from ownership. So is there owner
2 responsibility, in this instance, let's use Tesoro as
3 the example you're familiar with.

4 If Tesoro is the shipper and owner of the oil,
5 is there separate responsibility there?

6 A. For the shipments that we currently move between
7 North Dakota and our Anacortes refinery, we do own the
8 oil throughout the whole transportation process from the
9 origin through delivery and to the time it's processed
10 at the refinery, we still maintain ownership even though
11 it's under the care of BNSF.

12 Q. So let's go back to some of what you were
13 describing as the responsibilities of the shipper. I
14 want to focus here on something you'd identified
15 earlier, the need to identify the proper classification.
16 So when we're talking about crude oils that are
17 typically delivered to PADD 5 refineries, what class and
18 packing group in your experience does this crude oil
19 fall into?

20 A. Typically that crude oil is a Class 3 flammable
21 liquid Packing Group 1.

22 Q. So in your -- to your understanding in recent
23 years has the federal government examined whether or not
24 this classification is correct?

25 A. Yes, they have.

KISIELIUS / HACK

1 **Q. Can you tell us a little bit about that?**

2 A. In 2014, deputy administrator for PHMSA
3 testified before Congress that it was a proper
4 classification for crude oil for the Class 3 flammable
5 into packing groups.

6 **Q. And again, why is this classification important?**

7 A. The classification is important. You must know
8 what you're shipping so you can select the proper tank
9 car to move the material and also identify it on the
10 paperwork and placarding to let others that may come in
11 contact with it know what you're shipping.

12 **Q. Okay. And so the shipper is responsible for**
13 **identifying the classification in the packing group.**
14 **Are shippers required to test to ensure that they've got**
15 **that right?**

16 A. Yes, there are requirements to test the
17 material. It was spelled out very clearly in FMSA's
18 rule from May of 2015 that requires shippers to have a
19 written sampling and analysis plan. These requirements
20 are again outlined in 49 CFR 173.41. Those requirements
21 are for the sampling analysis plans so the shipper has
22 to demonstrate that they are looking at the material,
23 testing the material and can assign the proper
24 classification for that material.

25 **Q. And in your experience, has that classification**

KISIELIUS / HACK

1 and packing group that you identified earlier, I think
2 it was Class 3 Packing Group 1, has that been
3 corroborated by testing? And let's maybe start with
4 general industry testing.

5 A. Yes. Our industry trade group, which is the
6 American Fuel and Petrochemical Manufacturers, we did a
7 test of the membership for Bakken crude oils and
8 collected over 1,400 samples. Out of those samples, it
9 was determined again that it was properly classified as
10 a Class 3 flammable liquid packing group. It could be
11 1, 2 or 3 depending on where the sample was taken.

12 BY MR. KISIELIUS: For the council's
13 benefit, that summary is Exhibit 195.

14 BY MR. KISIELIUS:

15 **Q. What about your experience specifically as a**
16 **shipper? Have you had experience shipping -- or excuse**
17 **me, testing the cargo you're shipping for proper hazard**
18 **classification?**

19 A. Yes. As the shipper, we're required, as I said,
20 to test the oil before we ship it. And all of our
21 testing at our origin facility and even the destination
22 facility validates that it's properly classified, per
23 the rules of CFR.

24 **Q. That, again, is the Class 3 Packing Group 1?**

25 A. Correct. Occasionally we will see some test

KISIELIUS / HACK

1 results that are Packing Group 2, but it's not enough of
2 a trend to where we would change the classification. It
3 doesn't, you know, demonstrate that you're going to see
4 Packing Group 2 so we continue to classify it as Packing
5 Group 1.

6 **Q. Is that the standard, then, for determining --**
7 **is it based on one sample or a trend?**

8 A. You have to be able to demonstrate that you have
9 a history of sampling this material and accounting for
10 changes in season and temperature change and variability
11 and where the origin point may be. So as long as you
12 can demonstrate that in your sampling analysis plan,
13 again, you're going to look at maybe a 12-month history.
14 And if 23 tests show Packing Group 1 and one shows
15 Packing Group 2, you would continue to use Packing Group
16 1.

17 **Q. Okay. And can you tell us about Packing Group 2**
18 **versus Packing Group 1, which addresses the more --**
19 **which is the more volatile of the two?**

20 A. Packing Group 1 would be considered more
21 volatile.

22 **Q. So on this testing front you've described I**
23 **think as a shipper of what you do, you had testified in**
24 **your written statement about API 3000.**

25 MR. KISIELIUS: And I might ask Ms. Mastro

KISIELIUS / HACK

1 to pull up Exhibit 238.

2 BY MR. KISIELIUS:

3 **Q. And while she's pulling that up, can you**
4 **describe what is API 3000?**

5 A. So it's ANSI/API Recommended Practice 3000. And
6 this was an industry standard developed by those two
7 organizations that really provides a blueprint for crude
8 oil shippers on the proper testing methods to classify
9 the material as well as standards for securing the tank
10 cars prior to transportation and ensuring that the cars
11 are loaded properly.

12 **Q. Okay. So again, it addresses -- does it address**
13 **testing to ensure proper packing group and hazard**
14 **classification?**

15 A. Yes, it does.

16 **Q. And in your testimony you said that Vancouver**
17 **Energy will require shippers to the facility to comply**
18 **with this standard. How exactly would Vancouver Energy**
19 **verify its shippers' compliance with the standard?**

20 A. So compliance with the standard would be written
21 into the commercial terms for shippers using the
22 facility, and a couple ways to verify that they're
23 following that practice would be to sample the oil at
24 the terminal and then also inspecting the cars to make
25 sure that they're properly secured and that they're

KISIELIUS / HACK

1 following the practice.

2 **Q. Okay. Back on the testing issue, I have a**
3 **related question on testing.**

4 **Do you test for vapor pressure? And here I'm**
5 **talking about your experience both as a shipper at the**
6 **origin facility but also as someone who runs a receiving**
7 **facility like the one at Anacortes. Do you test for**
8 **that parameter?**

9 **A. Yes, we do. We test for vapor pressure at both**
10 **origin and destination. At the origin facility, it**
11 **assists with our compliance with properly classifying**
12 **the oil as well as monitoring our floating roof tanks,**
13 **which also have to comply with the EPA limit of 11.1 TVP**
14 **for floating roof crude oil tanks. And at destination**
15 **we will also test vapor pressure for the same reason we**
16 **have floating roof tanks that have to comply with a TVP**
17 **limit.**

18 **Q. So is it fair to say given that experience**
19 **you're talking about this requirement, is it an issue**
20 **that the industry deals with generally?**

21 **A. Yes, it is.**

22 **Q. In your experience have you had any problems**
23 **maintaining that 11.1 average monthly TVP limit for your**
24 **tanks?**

25 **A. No, we have not. I went back and looked at the**

KISIELIUS / HACK

1 past year's worth of our sampling data, and at both the
2 origin facility in North Dakota and the destination here
3 in Washington, the TVP average was less than 7 PSI, and
4 the high TVP reading we had at Anacortes on our tank was
5 8.1.

6 **Q. Let's switch subjects to talk about a different**
7 **element of the shipper responsibility. I want to talk**
8 **about tank cars and tank car design. And there's a lot**
9 **of testimony about the adequacy of the tank car design**
10 **from opposing witnesses. I want to start maybe with**
11 **just a basic framework.**

12 **Can you tell the council what different types of**
13 **tank cars are commonly used and federally approved for**
14 **transporting crude oil?**

15 A. Yes. So tank cars that are commonly used and
16 federally approved are -- commonly used would be general
17 purpose tank cars. And of the DOT models for general
18 purpose would be DOT-111, DOT-117, and DOT-120.

19 **Q. There's been reference to another tank car**
20 **design; it's CPC-1232. Can you describe what that is?**

21 A. Yes. CPC-1232 was an industry standard that
22 enhanced the design of the DOT-111 car. CPC stands for
23 Casualty Prevention Circular. And again, it was an
24 industry standard that enhanced the design of the
25 DOT-111, but was not adopted by the federal government

KISIELIUS / HACK

1 as the regulation.

2 **Q. Okay.**

3 MR. KISIELIUS: Ms. Mastro, I'm going to ask
4 you to please pull up Exhibit 125.

5 Your Honor, I'm going to ask Mr. Hack to
6 talk through some of the design differences referencing
7 the exhibit that was recently added. As I understand
8 it, that's the exhibit that's been added to the record,
9 but we have the models themselves in front of Mr. Hack
10 that I was going to ask him to refer to.

11 JUDGE NOBLE: We do.

12 MS. BRIMMER: Can I -- I think I have an
13 objection, but I want to clarify.

14 We objected to the paragraph of his
15 testimony about these. We did not object to them coming
16 in with the proper foundation, the exhibits themselves,
17 but that paragraph of his testimony is still stricken as
18 he was not qualified to offer the content of that
19 testimony in that paragraph.

20 So the models came in -- there were two
21 separate parts to that objection. The models came in
22 from the guy who did the models and that was fine, but
23 it didn't address whether or not this witness was able
24 to discuss those things in that paragraph.

25 MR. KISIELIUS: Your Honor, if I could

KISIELIUS / HACK

1 respond.

2 JUDGE NOBLE: Go ahead and respond.

3 MR. KISIELIUS: Sure. As I understood it,
4 there was one paragraph that was stricken. There were
5 several others in which Mr. Hack testified to tank car
6 standards and was familiar with them and what they
7 entailed.

8 So as I understood the objection, it had to
9 do with whether he could testify that these were
10 accurate representations of those. Having addressed --
11 having had the foundation laid by the person who created
12 them, we've crossed that barrier.

13 Mr. Hack has clearly established his
14 familiarity with the design differences and is prepared
15 to talk about those with reference to the exhibit that's
16 already been admitted. If there's need for further
17 foundation, I'm happy to talk to Mr. Hack about have him
18 communicate his familiarity with those standards.

19 MS. BRIMMER: Your Honor, I think the
20 connection is still missing. The gentleman who
21 testified with respect to the manufacture of these, it
22 was a sort of chain of evidence, if you will. He was
23 the guy that made them and could say these were the
24 actual models, but we still don't have a connection
25 between these models and whether or not those models are

KISIELIUS / HACK

1 representative of what this witness knows or can testify
2 to. I think there's still a lack there.

3 Now, if he wants to try to lay that
4 foundation, maybe we can, but as far as I'm concerned
5 that testimony is still stricken.

6 MR. KISIELIUS: If I may, just one more
7 point, because I think that is a fundamental
8 misunderstanding.

9 The witness that we called actually did
10 testify directly that these were accurate
11 representations of the described tank car designs.

12 JUDGE NOBLE: Remembering back to my ruling
13 on this, I found that Mr. Hack was not qualified to
14 testify about tank standards. He was not able to lay a
15 foundation for these exhibits or these demonstrative
16 exhibits, but also he did not have the basic
17 qualifications to testify about the tank standards.

18 MR. KISIELIUS: If we would have the -- I'd
19 like the ability to lay the foundation with Mr. Hack now
20 to establish his credentials, if I could.

21 JUDGE NOBLE: So you want to revisit the
22 question of his qualifications on tank standards?

23 MR. KISIELIUS: Yes, Your Honor. As I
24 understood that, the issue had more to do with the chain
25 of custody issue that Ms. Brimmer just described and his

KISIELIUS / HACK

1 ability to testify to those specific pieces. And in
2 fact, his testimony addresses differences in tank car
3 design, beyond the paragraph that was challenged.

4 JUDGE NOBLE: No. And I'm remembering, and
5 I may be trying to remember exactly what I said in my
6 ruling, I think I said that I would, like I did with
7 other witnesses, allow the door to be opened for further
8 testimony for foundation that this witness was
9 qualified. But I didn't see it at all in what seemed to
10 be the complete expression of his qualifications. And
11 so there would be no need to lay additional foundation
12 for testifying about the building and design of these
13 tank cars, tank car standards. So I was just finding
14 that he was not qualified to testify about this.

15 MR. KISIELIUS: And maybe that's the
16 misunderstanding. He's not talking about the building
17 of it or the functional effect of those design
18 standards.

19 He's testifying to what in practice they
20 are, what the federal regulations require in terms of
21 tank shell thickness and insulation and thermal
22 protection. He's not going to testify to the -- how
23 those actual design standards perform. That's the job
24 of another witness. He's just functionally laying out
25 the tank car design requirements themselves with

KISIELIUS / HACK

1 reference to the exhibits that have been admitted.

2 JUDGE NOBLE: And you're offering additional
3 foundation about his basis for that knowledge?

4 MR. KISIELIUS: Correct. I can ask several
5 questions to establish his familiarity with those
6 federal tank car rules and explaining the differences
7 between them.

8 JUDGE NOBLE: All right. Do you maintain
9 your objection about that?

10 MS. BRIMMER: What I understood counsel to
11 just say is he's going to ask this witness to testify to
12 what federal rules required, and while we can all read
13 them, I don't have an objection to him simply parroting
14 what the federal rules require.

15 JUDGE NOBLE: Will the testimony go beyond
16 his understanding of what the requirements are?

17 MR. KISIELIUS: His testimony will describe
18 what the requirements are, and we'd like to do it with
19 reference to the exhibits that have been entered because
20 they physically represent, and he can point to, for
21 example, tank shell thickness, he can talk about thermal
22 protection and show what that looks like. That's what
23 we'd like to be able to do.

24 JUDGE NOBLE: Well, I had those models
25 brought in today because I knew Mr. Hack was going to be

KISIELIUS / HACK

1 testifying. And I am going to have to draw a fine line.

2 He can testify about his understanding of
3 the requirements. He can't testify about the
4 manufacture of the tank cars with reference to those,
5 but if he needs to point to something on those exhibits
6 as illustrative, what his understanding is, I guess I
7 would -- I would allow that. But I don't find him
8 qualified to testify about the building of the tank cars
9 and the technical requirements of how those were built.

10 MR. KISIELIUS: And again, I want to -- he
11 will be not testifying to the manufacture, he'll not be
12 testifying to the performance of those particular design
13 elements. He'll be identifying those design elements.
14 And if I might, he's testifying to, based on his
15 understanding of the federal rules and the adoption of
16 those rules and the discussion in that scenario of what
17 those design elements were adopted to address, not
18 unlike several of Opponent's witnesses that talk about
19 the same issue who don't have manufacturing experience
20 or engineering experience either.

21 JUDGE NOBLE: Right. And he's not in the
22 business of manufacturing tank cars, and that was the
23 problem with his qualifications. Not that he's not a
24 very qualified witness in many areas.

25 And so I'm going to allow you to start your

KISIELIUS / HACK

1 questioning, but I'm going to stop you if he goes too
2 far into the more manufacture of those -- of the tank
3 cars with those variations, because I really remember
4 saying that I just felt that there would be no need to
5 have him further qualified because he clearly wasn't
6 qualified to talk about the manufacture of the tank
7 cars.

8 MR. KISIELIUS: Okay. Thank you, Your
9 Honor.

10 BY MR. KISIELIUS:

11 Q. Mr. Hack, maybe to help us a little bit here,
12 can you talk about how through your job you're familiar
13 with the federal regulations governing tank cars?

14 A. So my job does require familiarity with the tank
15 cars that we can use to ship our products. I've been in
16 design in the acceptance of about 2,000 cars we've added
17 to our fleet since I've worked there. And during that
18 acceptance, we have to have a specification call with
19 the builder where we go line by line with every
20 component of that car and we specify as the lessee what
21 we want from those cars.

22 So we do those meetings. I am required to know
23 what the federal standards are for the tank cars so we
24 can make good decisions on what type of tank cars we're
25 going to use in our fleet.

KISIELIUS / HACK

1 For example, in February of 2014, we decided to
2 build 120J car. It was my recommendation at my company
3 that this was the best design feature for us to go
4 forward, and it was the best design because it offered
5 these additional upgrades over current models. So I
6 have to be familiar with the different DOT types that we
7 use in our own transportation.

8 **Q. And do you through your job participate in**
9 **the -- do you monitor the change in regulatory**
10 **requirements?**

11 A. Yes, I do.

12 **Q. And in what capacity?**

13 A. Well, I'm a part of the AFPM Rail Policy Working
14 Group -- (Court reporter interruption.) Excuse me.
15 AFPM, American Fuel Petrochemical Manufacturers. Our
16 industry trade group has had a Rail Policy Working
17 Group, and we have met for the past two years to discuss
18 the impacts to industry for the changing regulations on
19 tank cars and included, collectively, providing comments
20 for the notice of proposed rule making that eventually
21 came out in PHMSA ruling in 2013.

22 So as part of that working group, we had to be
23 familiar with all the design concepts from DOT-111,
24 CPC-1232 changes, the 120Js that Tesoro ordered, as well
25 as what the new standard was, which is the DOT-117 that

KISIELIUS / HACK

1 was finalized in the rule and now is a matter of public
2 record.

3 Q. So can you describe the -- what's been referred
4 to as the DOT-111 tank car? And here I'd just like you
5 to focus on the regulatory requirements for things like
6 tank shell thickness.

7 A. DOT-111 we commonly refer to as the Legacy 111
8 car. The requirements for that car is that it has to
9 have a 7/16th-inch tank shell.

10 Q. And looking at Exhibit 125, if you can sort of
11 point out which one that is represented or at least the
12 label that identifies the 111.

13 A. On the display it would be the one on the far
14 left.

15 JUDGE NOBLE: The witness can point to the
16 actual one on the table.

17 MR. KISIELIUS: I was about to go there as
18 well. I just thought for purposes of getting the label
19 corresponding with the model. Thank you, Your Honor.

20 THE WITNESS: Thank you. And this would
21 represent the cross-section of a DOT-111.

22 BY MR. KISIELIUS:

23 Q. And what's your understanding of the federal
24 regulations in terms of the required phaseout of that
25 particular model?

KISIELIUS / HACK

1 A. For crude oil transportation, this model railcar
2 will be phased out in 2018.

3 **Q. Let's talk about the CPC-1232 that you described**
4 **earlier. Again, if you could describe your**
5 **understanding of the design elements of that particular**
6 **model.**

7 A. For the CPC-1232 car, again, it was an upgraded
8 DOT-111. The car continued to be stenciled as a
9 DOT-111, but as you will see here in this model, the
10 tank shell thickness was increased to 1/2-inch.

11 Some of the other distinguishing safety features
12 of a CPC-1232 car was that this car is required to have
13 TC128 Grade B normalized steel, so they changed the
14 steel specification on the car. They're required to
15 have skid plates to protect the bottom outlet valve. It
16 had a minimum of half height head shields which protect
17 the tank heads of the car -- (Court Reporter
18 interruption.) Half height head shields.

19 And then on the top of the car, it required to
20 have enhanced top fittings protection. And this enabled
21 the pressure relief device to be moved off the tank of
22 the car inside the protective housing on the top of the
23 car.

24 **Q. What's your understanding of the phaseout under**
25 **the federal rules of that particular design?**

KISIELIUS / HACK

1 A. For unjacketed CPC-1232 cars, they will be
2 phased out in crude oil transportation by 2020. If it's
3 a jacketed CPC-1232 car, it needs to be phased out by
4 2025.

5 **Q. Okay. Let's move on to the DOT-117 tank car.**
6 **Can you describe what are the design elements of this**
7 **particular model?**

8 A. Yes. For this model that I'm pointing to now,
9 this represents the new design standard for the
10 DOT-117A. It had the tank shell thickness increased to
11 9/16ths of an inch. It also requires a jacket which
12 you'll see is about an 1/8th of an inch layer of
13 11-gauge steel that's on the outside. And then in
14 between that, this was a modification for the FAST Act
15 which modified the PHMSA rule from May of 2015 required
16 thermal protection, thermal protection in the form of
17 1/2-inch of ceramic fiber which you see represented by
18 the white in this model.

19 Some of the other design requirements on a 117
20 is that it must have a disengaging bottom outlet valve
21 handle that will prevent inadvertent opening of the
22 bottom outlet valve. And all 117As, or any 117 for that
23 matter, is required to have full head shields as well as
24 the jackets that I mentioned before.

25 **Q. Okay. And the last one I'd like to ask you**

KISIELIUS / HACK

1 about is the 120, the DOT-120. Could you describe the
2 regulatory requirements for the design specs?

3 A. The DOT-120 design is based upon a pressure car
4 design and, like the 117, it also has a 9/16th-inch tank
5 shell. It has the jacket, it will have the 1/2-inch of
6 ceramic fiber thermal protection, and with the yellow
7 here, this is what we refer to as thermal insulation.
8 So this is really to maintain product temperature
9 control more so than provide thermal protection as the
10 ceramic fiber does.

11 The 120J has a couple design features also that
12 distinguish it from the 117. It has thicker tank heads
13 than the 117, which is the end caps of the tank itself.
14 The 120J has a protective housing on the manway, which
15 is unique to that type of car.

16 And a couple other things that, because it's a
17 pressure car-based design, the tank is tested to 200 PSI
18 at manufacture and the welds are also required to be
19 X-rayed, 100 percent X-ray welds -- excuse me. The
20 welds, tank welds, 100 percent of them have to be X-ray
21 tested.

22 **Q. I've heard you as you refer to some of these**
23 **refer to three different concepts, and I want to make**
24 **sure there's clarity on that. You've talked about**
25 **jacketing, insulation, and thermal protection.**

KISIELIUS / HACK

1 Are those different things?

2 A. Yes, they are.

3 **Q. Can you describe what each of those are?**

4 A. So working my way out from the interior of the
5 120J car outward, the first layer you'll see is the
6 thermal protection. This is the ceramic fiber, that's
7 the thermal protection. Then you have the insulation is
8 which the yellow fiberglass you see in this model. And
9 the jacket is again that exterior layer of steel that
10 provides extra protection on the exterior of the car and
11 holds the insulation onto the tank shell.

12 **Q. And so in terms of the thermal protection, what**
13 **does the -- what's your understanding of the regulatory**
14 **requirement for that particular design element?**

15 A. Thermal protection is specified in 49 CFR
16 179.18, and it's designed to protect the tank against a
17 100-minute pool fire or a 30-minute torch fire.

18 **Q. Okay. So with that background, I want to now**
19 **jump to something else in your prefiled testimony.**

20 **What types of tank cars will shippers to the**
21 **proposed facility be able to use?**

22 A. The facility has -- will only accept DOT-117 or
23 better tank cars.

24 **Q. So you talked earlier about the phaseout of some**
25 **of those earlier models. Is that a facility imposed**

KISIELIUS / HACK

1 requirement in advance of that phaseout?

2 A. Yes, well in advance of the phaseout. It will
3 be from day one of operations.

4 **Q. Okay. And as the receiving facility, Vancouver**
5 **Energy, how does the receiving facility ensure that that**
6 **will be carried out?**

7 A. I think that, again, you would put something in
8 the commercial terms about the types of cars you will
9 accept. That's not uncommon in industry today. I've
10 seen several facilities that will only accept CPC-1232
11 or better cars.

12 So on paper, that's the way you manage it. But
13 functionally, I would instruct the personnel working
14 there to inspect every car that comes into the facility
15 before they offload it. Each car will have a stencil on
16 the outside, DOT stencil, and if you found one that said
17 DOT-111, I would ask the facility to set the car out and
18 notify the shipper and tell them that they're in breach
19 of those terms and we're not going to offload that car.

20 **Q. Switching to your experience as somebody on the**
21 **other end of the supply chain as a shipper, are there**
22 **tools that you can do to help manage this particular**
23 **requirement?**

24 A. Yes. As Tesoro has our own loading facility in
25 North Dakota and the way I would manage that is, again,

KISIELIUS / HACK

1 on the checklist for the loaders, they are required to
2 look at the qualification testing stencils on the
3 exterior of the car to make sure the car is in
4 compliance. So to add to that checklist is make sure
5 this is a DOT-117 or a DOT-120, an acceptable car for
6 the Vancouver Energy facility.

7 Furthermore, as a backstop for that, I would
8 program the computer, if you enter the origin of -- or
9 excuse me, if you entered the destination of Vancouver
10 Energy and you program the car numbers when you're going
11 into your loading process, you could also write into the
12 program that it will not load that car if it recognizes
13 it as a DOT-111.

14 **Q. Now, on design elements again, Mr. Millar in his**
15 **testimony addresses something you haven't talked about,**
16 **and that is ECP brakes. And I want to ask you about the**
17 **regulatory requirement for ECP brakes, but before I do,**
18 **can you explain what an ECP brake is?**

19 A. Yes. ECP stands for electronically-controlled
20 pneumatic brakes. It's probably most helpful to discuss
21 the conventional air brake system before we move to ECP.

22 So on most trains running today, the brakes are
23 controlled by an air line that runs the length of the
24 train, whereas the locomotives, and in most cases DP
25 trains, distributed power trains, will push air from

KISIELIUS / HACK

1 both ends. And they have to have a certain amount of
2 pressure, which is 90 PSI, to have the brakes release
3 for movement. And then to stop the train, they release
4 that brake line pressure and that applies to brakes.

5 ECP brakes function somewhat differently in that
6 there will be a wire strung from one end of the train to
7 the other, and there are control boxes on each
8 individual car, so when the engineer wants to stop the
9 train in this case, he would send a signal down the
10 wire. Each car would receive that signal almost
11 instantaneously and tell the cars to apply the brakes.

12 **Q. Let's go to the regulatory requirements. Can**
13 **you give us a summary of whether the regulations require**
14 **that and what the status is?**

15 A. The rule from PHMSA, and again that was issued
16 in May of 2015, required ECP brakes on high hazard
17 flammable unit trains, which crude oil trains would fall
18 in that category. That rule was modify by the FAST Act
19 last year which required two separate studies to be
20 performed by the federal government, and I think one of
21 them was the GAO. And they were studying the
22 cost-benefit analysis of the ECP brakes.

23 The results of those studies are to be filed
24 back with the PHMSA administrator and then he or she
25 will make the determination of whether or not that EPC

KISIELIUS / HACK

1 brake mandate will be upheld.

2 **Q. So let me ask you, again, stepping into your**
3 **role as a shipper, somebody who is responsible for**
4 **leasing tank cars, how do you deal with that in the**
5 **meantime?**

6 A. It's a difficult position to be in, because if I
7 were to equip all of my tank cars with ECP brakes, it
8 may be a stranded asset because it requires the railroad
9 locomotives to be equipped with the means to control
10 those ECP brakes. So what we've done at Tesoro for my
11 most recent order of 500-plus tank cars we have
12 manufacturing at present, we are building them to be ECP
13 ready.

14 And by that I mean they are placing brackets to
15 hold the control boxes as well as conduit on the cars.
16 And the idea is if the mandate is upheld and we have to
17 apply ECP brakes, we can then put them on in the field.

18 **Q. Okay. So Mr. Millar I think criticizes the**
19 **retirement rate for the older cars that you described,**
20 **that phaseout. Does that affect -- just to be clear,**
21 **does that affect trains traveling to the proposed**
22 **facility?**

23 A. It does not. Again, the requirement is for 117
24 or better cars.

25 **Q. And Mr. Chipkevich in his testimony on Page 25**

KISIELIUS / HACK

1 raises a slightly different concern, that there aren't
2 enough DOT-117 tank cars available and that the facility
3 will have to accept older cars. Do you share his
4 concerns?

5 A. I do not.

6 **Q. Why not?**

7 A. Part of my job duties is sourcing tank cars.
8 When we see the need, again, we identify the business
9 need or we make a plan at Tesoro to acquire more cars.
10 And we went out to market through a request for
11 proposal.

12 The lead time for production of tank cars right
13 now is probably at an all-time low. For example, in
14 2014 when I ordered my first set of DOT-120Js, it took
15 15 months from the time I signed the contract until the
16 first car rolled off the line. Our most recent order
17 this year that we signed in March, those cars started
18 rolling in May, so two months.

19 There is capacity available. There are new cars
20 sitting in siding tracks all over North America that the
21 tank car leasing companies are trying to actively put
22 into service.

23 **Q. Are you aware of any other industry developments**
24 **affecting the availability of DOT-117 tank cars?**

25 A. I believe the drop in crude oil train traffic

KISIELIUS / HACK

1 from North Dakota with the pricing of the commodity has
2 put a lot of cars out of service. And again, there's
3 cars to be had via sublease or brand new build, but
4 they're out there.

5 Q. Okay. But let's just assume for a second that
6 what you just described isn't the case and that there is
7 a shortage of DOT-117 or better tank cars. What would
8 happen given the applicant's commitment?

9 A. If there were a shortage of cars and there
10 weren't enough 117s to supply the facility, we would
11 simply run under capacity.

12 Q. I want to ask you a couple questions about tank
13 car specifications. And there's an earlier discussion
14 with one of the witnesses through cross-examination
15 about the incident in Mosier.

16 So first I want to ask you, are you familiar
17 with that incident?

18 A. Yes, I am.

19 Q. And what information have you reviewed to become
20 familiar with that incident?

21 A. There was a preliminary report on the derailment
22 issued by the FRA which is where I receive most of my
23 information.

24 Q. So based on that report, do you know what kind
25 of tank cars were involved?

KISIELIUS / HACK

1 A. Yes. The tank cars involved in that derailment
2 were CPC-1232 cars. They were jacketed CPC-1232 cars.

3 Q. So I heard you say they were jacketed. The
4 other two that we had talked about were insulation and
5 thermal protection. Did they have those?

6 A. Those particular cars had insulation, which
7 again is the yellow fiberglass here, but they did not
8 have the thermal protection.

9 Q. So based on that report, can you tell us what
10 occurred? And I'm looking for here how many cars
11 derailed and how many released.

12 A. The report stated 16 cars derailed in that
13 incident and four of the tank cars actually breached.

14 Q. Okay.

15 A. Or let me correct that. Breached is not -- four
16 of the tank cars lost containment.

17 Q. Okay. And let's talk about the four that lost
18 containment.

19 Did the report specify what the cause of that --
20 of the loss of containment was in each?

21 A. Yes, it did. One of the tank cars was punctured
22 by a coupler, so that was a breach of the tank shell.
23 Two of the cars lost containment through the bottom
24 outlet valve. And then one of the cars lost containment
25 through the manway. And I believe that was due to a

KISIELIUS / HACK

1 melted manway gasket.

2 Q. Okay. And are there differences in the design,
3 the regulatory required design of the DOT-117 or 120,
4 that are intended to address any of those -- the causes
5 of the loss of containment of those four cars?

6 A. Yes. The DOT-117 --

7 JUDGE NOBLE: Just a minute. I would like
8 the witness to provide a basis for that knowledge.

9 MR. KISIELIUS: Sure.

10 BY MR. KISIELIUS:

11 Q. Mr. Hack, as you were, you had earlier testified
12 that you were tracking the regulatory developments that
13 led to the rule making.

14 As part of that effort on behalf of the industry
15 group, were you aware of the discussion at the policy
16 level as to why different tank car requirements were
17 being proposed?

18 A. Yes.

19 Q. Okay. So, for example, can you describe why the
20 tank shell thickness was being proposed?

21 A. The increase in tank shell thickness for the 117
22 car was proposed to enhance the tank's ability to
23 withstand collisions and resist any puncturing or
24 tearing.

25 Q. Okay. And the thermal protection, you may have

KISIELIUS / HACK

1 already testified to this, but can you explain your
2 understanding why the federal regulatory agencies were
3 considering adoption of a thermal protection standards?

4 A. The thermal protection was designed to prevent
5 heat-induced thermal tears and to protect the tank
6 contents, again, against the 100-minute pool fire and
7 the 30-minute torch fire.

8 **Q. What is your understanding, again on the federal**
9 **policy level, as to what the reason that the agencies**
10 **were considering requiring enhancements of protection of**
11 **bottom outlet valves?**

12 A. The reasoning for the disengaging bottom outlet
13 valve handle was to prevent the inadvertent opening of
14 the bottom outlet valve in the event of a rollover or
15 derailment where the handle, as they were designed on
16 the CPC-1232 cars and DOT-111 cars, were still attached
17 to the stem of the bottom outlet valve and could
18 therefore be activated and open the valve.

19 The upgraded design pushes that -- pulls the rod
20 out of the valve stem, and if you did have the handle
21 open and it would be disengaging, it would not open the
22 bottom outlet valve. So it was designed to protect
23 against opening the bottom outlet valve if the belly of
24 the car hit the ground.

25 JUDGE NOBLE: Excuse me. Mr. Hack, could

KISIELIUS / HACK

1 you just tell the council how you came about this
2 knowledge?

3 THE WITNESS: Most of it is through my work
4 with the AFPM Rail Policy Working Group, but I have
5 close relationships with all the tank car builders;
6 Trinity, UTLX, American Railcar Industry. It's my job
7 for Tesoro to be up to date on what the requirements are
8 for tank cars. And we want to be on -- to be a safe
9 shipper.

10 JUDGE NOBLE: Do you go to meetings with
11 them?

12 THE WITNESS: We have at least two meetings
13 in person a year. We have periodic phone calls.

14 I meet with railcar manufacturers on a
15 regular basis when they come to my office. We talk
16 about changes in regulations and what they're seeing as
17 tank car builders and designers.

18 I read material; everything I can get my
19 hands on from AAR. I go to -- twice a year they have
20 AAR tank car committee meetings, and so I attend those
21 meetings to learn about the changes that are coming to
22 the tank cars because it will affect us financially as a
23 company. We want to make good decisions on leasing cars
24 that will provide longevity and ship our materials
25 safely.

KISIELIUS / HACK

1 JUDGE NOBLE: Thank you.

2 MR. KISIELIUS: Your Honor, hopefully this
3 will clarify it as well. I'm not going to ask Mr. Hack
4 at all to testify whether he thinks that those design
5 standards, what effect they might have had in that
6 instance. We have different expert witnesses to testify
7 to that. I'm simply going to ask Mr. Hack if he is
8 aware of any design elements of those two cars.

9 BY MR. KISIELIUS:

10 Q. Now, here we're referring to DOT-117 and DOT-120
11 that would -- the design elements of those types of tank
12 cars that would be designed to address the loss of
13 containment in the four that do -- for the loss of
14 containment in Mosier.

15 A. I believe, yes, with the increased tank shell
16 thickness, the disengaging bottom outlet valve handles,
17 I would have expected to perform better. And then on my
18 120J tank cars, they have that additional manway
19 protection on top of the car, which is another level of
20 protection.

21 Q. And so the -- did the DOT-117s and 120s have
22 additional thermal protection beyond what was on the
23 1232s that were involved in that incident?

24 A. Yes. The 117s and 120 cars would be required to
25 have the thermal protection, which is the ceramic fiber

KISIELIUS / HACK

1 insulation that you see on the models.

2 Q. Mr. Hack, I want to change topics here.

3 Are you familiar with Mr. Chipkevich's testimony
4 about the BNSF train tracks related to cross ties?

5 A. Yes, I am.

6 Q. And have you reviewed the photos of the cross
7 ties that were attached to his prefiled statement?

8 A. Yes, I did.

9 Q. And I believe there was some earlier testimony
10 about that, but do the photos that Mr. Chipkevich
11 provided with his prefiled statement give you enough
12 information that the track warrants additional
13 inspection from the standpoint of the federal regulatory
14 requirement?

15 A. Again, these requirements are outlined and
16 publicly available information. In this case, it's
17 49 CFR 213.109 that talks about cross ties for track.

18 I don't think that based upon the pictures you
19 could accurately assess that that track warranted
20 further inspection, because the regulation clearly talks
21 about ties in 39-foot sections. So you would need to
22 inspect a 39-foot section of track before you determine
23 that any number of ties made that track not good. And
24 you also have to know the class of track that you're
25 talking about, because there are different standards for

KISIELIUS / HACK

1 different classes of track on main line or industry
2 track.

3 **Q. And are you familiar with the class track in the**
4 **vicinity of the photograph that Mr. Chipkevich took?**

5 A. Yes. I asked BNSF and was told that that
6 particular area was a Class 4 track.

7 **Q. And based on your understanding of the**
8 **regulations, do you know what the standard of the**
9 **threshold is within that 39-foot segment that you just**
10 **described?**

11 A. The CFR mandates that 12 ties in that 39-foot
12 section must be without defect. But again, talking to
13 BNSF, their standard is higher than the CFR and they'd
14 have to specifically answer to what their standard is.
15 But I can only speak to what the CFR and that
16 information that's available to me.

17 **Q. Staying on this topic of track inspection, there**
18 **was a question from council of the prior witness related**
19 **to inspections within the fence line, in other words off**
20 **the main line and within the fence line.**

21 **As somebody who works with facilities like that,**
22 **that have rail infrastructure off the fence line, are**
23 **you familiar with inspection requirements?**

24 A. Yes, I am. The requirements differ by state.

25 **Q. Let's focus on Washington.**

KISIELIUS / HACK

1 A. In Washington state at our Anacortes facility,
2 we inspect our track once a month.

3 **Q. Okay. And is there ability -- I think the**
4 **question was raised about -- with the railroad itself**
5 **completing an inspection. Is that a possibility?**

6 A. Yes, it is. And I personally had experience
7 with that in my former employment. We would have the
8 railroad come in and move their geometry test car on our
9 tracks in our unloading facilities and our power plants.
10 And the railroads were more than willing to do that
11 because they want to collaborate on safe rail
12 transportation. Plus their crews had to operate on
13 those lines when they delivered the train and departed
14 with the train, so they had an interest to making sure
15 that that track was up to standard.

16 **Q. What about upon initial construction? Is there**
17 **a railroad inspection at that point?**

18 A. Yes. For any new construction project related
19 to rail, and I personally have done this in my
20 employment at Tesoro where we have to work with the
21 railroad on a new project, they're going to review your
22 designs, they're going to look at the specifications,
23 and they're going to make sure that the track that they
24 are going to bring product into or railcars into is
25 adequate and up to their standards. And you will sign

KISIELIUS / HACK

1 an industrial track agreement that governs the movements
2 inside your facility by the railroad.

3 **Q. In your testimony you described CTC from a**
4 **dispatching standpoint. Can you summarize what that is?**

5 A. CTC is a centralized traffic control. This is
6 the signaling system that is in use on many of the
7 subdivisions across the rail lines. And it's how they
8 control the movement of trains across territories.

9 **Q. Okay. And again, this is returning to a council**
10 **question related to prior testimony. There was some**
11 **discussion about slide fences and their operation. Were**
12 **you here for that testimony?**

13 A. Yes, I was.

14 **Q. And in your experience as a dispatcher, did you**
15 **have experience with slide fences?**

16 A. I did. When I dispatched for Union Pacific
17 Railroad, one of my territories that I dispatched was
18 the Moffat Tunnel Subdivision, which is west of Denver
19 up through the Rocky Mountains. There were a number of
20 slide fences along that route that were used to protect
21 the trains and anybody on the tracks from slides. And
22 it's tied in to the CTC system in that if a slide fence
23 is activated, it will drop the signals and will throw a
24 red light up in front of the train, so trains coming
25 from either direction will not be able to access that

KISIELIUS / HACK

1 block.

2 The other thing that you have to do when a slide
3 fence activates is you have to have somebody go out
4 there and take a look. So there's going to be a
5 signalman and track inspector that goes out there, and
6 they're going to make sure you give the all clear. If a
7 train is moving through there, you would, again, I think
8 as Mr. Guthrie said, they will be moving at restricted
9 speed, so they will have to stop within half the
10 distance of any obstruction.

11 **Q. I want to ask you a question about train speeds**
12 **and Mr. Millar's testimony. I believe he quotes NTSB**
13 **Chair Jim Hall as saying that speeds in excess of**
14 **25 miles per hour were, quote, irresponsible.**

15 **Have you reviewed Chairman Hall's comments?**

16 A. I have. I looked at a couple different things
17 for Chairman Hall, and what -- I saw the word
18 "irresponsible" used was in a Bloomberg article. But
19 what I saw as more of the meaning of Chairman Hall's
20 contents was something different, in that movements in
21 older tank cars above 25 miles per hour in highly
22 populated areas or should be at 25 miles an hour in
23 highly populated areas until enhanced tank car designs
24 are finalized by PHMSA, built and in service.

25 **Q. So would the applicant's commitment to use the**

KISIELIUS / HACK

1 DOT-117 or better address those concerns?

2 A. Yes.

3 **Q. I also want to ask you to respond to some**
4 **testimony from Susan Harvey about the calculation of a**
5 **worst-case railroad spill. And here again, I'm going**
6 **just on design elements. She assumes that 750 barrels**
7 **of crude would be in each tank car.**

8 **Is that an accurate assumption for DOT-117 or**
9 **better tank cars?**

10 A. No, it is not. With the new design standards,
11 and as you can imagine, thicker tank shells as well as
12 jackets will carry a weight penalty with that. So the
13 weight of the car has increased and the gross rail limit
14 of the car, again the total weight of the car, is still
15 286,000 pounds.

16 So with the empty weight increasing and the
17 gross rail limit remaining the same, it means you'll be
18 able to put less product in the car. And for my 120Js
19 that we load, we see between 660 and 670 barrels per
20 car.

21 **Q. In your role as a shipper for Tesoro, how much**
22 **space inside the tank car is used in the typical crude**
23 **tank car? How high do you fill it?**

24 A. The law requires a 1 percent "outage" is the
25 term we refer to in the tank car for how full it is.

KISIELIUS / HACK

1 And in the cars that I've seen loaded over the past
2 three and a half years, that outage is typically -- or
3 we fill them to, it might be a better way to put it,
4 95 percent to 98.5 percent full.

5 **Q. So you touched on weight and you touched on that**
6 **in your testimony as well, car weight. I want to focus**
7 **on other aspects of the tank car in your experience and**
8 **specifically let's talk about truck length.**

9 **First of all, what's the truck of a tank car?**

10 A. The truck is the apparatus that the wheels sit
11 on. It's -- it has the springs, the axles, it's what
12 the car rides on.

13 **Q. And when we talk about truck length, what are we**
14 **referring to?**

15 A. Well, we're really talking about the length
16 between truck centers, and that's the measure of what is
17 the distance for this particular type of tank car.
18 Wheel base might be another way to refer to it.

19 **Q. And how would you characterize the truck length**
20 **of a tank car as compared to other types of freight**
21 **cars?**

22 A. Well, just to be clear, we're talking about
23 comparing the distance between truck centers --

24 **Q. Correct.**

25 A. -- not just truck length? Okay.

KISIELIUS / HACK

1 So the distance between truck centers on a tank
2 car is actually longer than a lot of cars that are used
3 in unit train service. I'll start with cement cars or
4 frac sand cars that run in unit train service.

5 The difference between truck centers on those
6 cars is about 27 feet 6 inches. The coal cars, which
7 I'm very familiar with, I've ran unit trains on those,
8 the distance between those truck centers was 40 feet
9 6 inches.

10 The common denominator on all these cars is,
11 again, 286,000 pounds gross rail limit, so they --
12 (Court reporter interruption.) The common denominator
13 is -- the gross rail limit is still 286,000 pounds.

14 And, I'm sorry, one other example would be a
15 grain car, and grain unit trains, we've all seen, they
16 also have distance between truck centers that's shorter
17 than a tank car.

18 **Q. Does that mean that tank cars are the -- have**
19 **the longest distance between truck centers of types of**
20 **freight cars?**

21 A. No, they do not.

22 **Q. Are there others that you're aware of that might**
23 **be longer?**

24 A. Refrigerated boxcars would be one, and they're
25 in the 53-foot range. And another type of car we call a

KISIELIUS / HACK

1 mill gondola. It's a long car -- (Court reporter
2 interruption.) A mill gondola. And that's probably one
3 of the longest cars, about 56 feet between truck
4 centers. And again, those can be up to 286,000 pounds
5 gross rail limit.

6 **Q. Just a couple more questions for you. I want to**
7 **return to a topic from your prefiled testimony.**

8 **You describe what is a unit train, and the**
9 **council is familiar with that term now. I want to talk**
10 **about the -- from a shipper standpoint the benefits of a**
11 **unit train from a commercial standpoint. If you could**
12 **describe that for us, please.**

13 A. Sure. The benefits of a unit train is really
14 the efficiency of the movements. The tank cars that we
15 have can make multiple turns. In let's say a month
16 timeframe on a manifest shipment it might take you
17 30 days to get it from Point A to your destination and
18 back. A unit train might make that turn three or four
19 times in a month.

20 So all the cars stay together, the locomotives
21 stay with the train. It departs the origin and goes
22 straight to the destination. The train doesn't stop
23 along the way to go through a classification yard. So
24 it's really a very efficient movement for one type of
25 commodity.

KISIELIUS / HACK

1 **Q. And do you have experience managing other kinds**
2 **of unit trains?**

3 A. Yes. Prior to my employment at Tesoro, I worked
4 for Ameren, and we had a large fleet of unit trains for
5 shipping coal. And I would say the average train length
6 for those unit trains was 135 to 143 cars per train.

7 **Q. Okay. And in your experience dispatching, have**
8 **you seen other types of unit trains in service?**

9 A. Oh, yes. We would dispatch several different
10 types of unit trains, coal trains, grain trains, frac
11 sand trains.

12 **Q. Can you compare those lengths of unit trains to**
13 **unit trains that would be arriving at this facility?**

14 A. Sure. As a dispatcher, and you have the single
15 track territory where you would have to meet passes, you
16 had to be familiar with the train lengths to make sure
17 they would fit in a siding and where would be an
18 appropriate place to pass the trains. And I would say
19 that coal trains generally were much longer,
20 143 cars-plus. Intermodal trains were probably the
21 longest trains I've seen, some in excess of 12,000 feet,
22 and grain trains, 135 cars.

23 So I would put the oil trains and the trains for
24 this facility somewhere in the neighborhood of the grain
25 train or the coal train. But very common on the rail

KISIELIUS / HACK

1 tracks to have that length of train.

2 **Q. And does Tesoro currently transport unit trains**
3 **over the proposed route today?**

4 A. Yes, we do.

5 **Q. Okay. Can you describe just roughly how many**
6 **that might be?**

7 A. We ship about five to six trains per week to our
8 Anacortes refinery.

9 **Q. We've heard some questions from opposing counsel**
10 **of other witnesses referring to 8 crude oil unit trains**
11 **per week passing along -- excuse me, 18 crude oil trains**
12 **passing along this route per week. Are you familiar**
13 **with where those might be headed?**

14 A. I'm not -- I can't validate the number because
15 that would be information for other businesses. But I
16 do know from our own dealings and where we have had
17 commercial dealings with the Cherry Point facility,
18 Ferndale facility, the Tacoma U.S. oil facility. And
19 I've also shipped trains down the BNSF line that had
20 made a southbound turn at Wishram to go down to
21 California. So there are trains moving along this line
22 today.

23 **Q. We've talked today a lot about the federal**
24 **regulatory standards, shippers and carrier standards.**

25 **As the person responsible for managing rail**

BRIMMER / HACK

1 shipments of oil for Tesoro, can you describe what
2 impact it would have if a state or local entity were
3 able to add local requirements governing rail safety or
4 transportation?

5 A. As a shipper, I think that would make it
6 extremely difficult to move things efficiently by rail
7 because you would run into the potential of having to
8 stop cars at the border of every state to make any
9 changes or verify that it met the particular
10 requirements. So I think the federal laws that govern
11 interstate commerce particularly for rail make sense.

12 MR. KISIELIUS: No further questions.

13 JUDGE NOBLE: Cross-examination?

CROSS-EXAMINATION

14
15 BY MS. BRIMMER:

16 Q. Mr. Hack, good afternoon.

17 A. Good afternoon.

18 Q. My name is Janette Brimmer and I represent some
19 of the intervenors in this case and I want to ask you
20 just a few questions.

21 First I want to confirm, I think you said you
22 worked for Tesoro; right?

23 A. That's correct.

24 Q. Which Tesoro? Do you work for Tesoro Corp or
25 Tesoro Companies or some other unit of Tesoro?

BRIMMER / HACK

1 A. I'm employed by Tesoro Refining and Marketing
2 Company.

3 **Q. Okay. And Vancouver Energy, or sometimes**
4 **referred to as Tesoro Savage, that's a different entity;**
5 **right?**

6 A. Yes, it is.

7 **Q. Do you also hold a position with them?**

8 A. No, I do not.

9 **Q. Will you?**

10 A. I don't believe so. I will continue to work in
11 my current capacity as managing Tesoro's rail ops and
12 act as a shipper for the terminal.

13 **Q. Do you know if anyone at the terminal will have**
14 **a job similar to yours?**

15 A. I don't believe so, but I would imagine they
16 would have a person similar to what we have in our
17 Anacortes facility, the terminal manager that looks
18 after the rail shipments and closely coordinates with my
19 group or my team on the arrival and departure of trains.

20 **Q. So your testimony here today about what shippers**
21 **or what you do, I think you said we do this, we do that**
22 **with respect to shipping. You're referring to Tesoro**
23 **marketing and refining, right?**

24 A. Yes. When I'm talking about the movements that
25 I actively ship today, that is on behalf of Tesoro and

BRIMMER / HACK

1 the Tesoro shipments.

2 Q. And you're not talking about what other shippers
3 that might send to the Vancouver Energy Terminal might
4 or might not do?

5 A. I think I talk in a broad sense about what the
6 requirements would be for all shippers to the terminal,
7 and we would be one of those.

8 Q. Let me back up on that a little bit.

9 When you're talking about what shippers do, for
10 example, in North Dakota, you're talking about when you
11 say "we," you're talking about Tesoro, right?

12 A. Yes.

13 Q. Okay. In your written testimony on Page 5 at
14 Paragraph 4 -- or excuse me, Paragraph 14, I think you
15 said that it's your understanding that shippers to the
16 terminal -- or for all shippers the terminal "would
17 contractually require certain crude oil quality and
18 specifications."

19 Would that include volatility requirements?

20 A. That would include requirements that are in line
21 with the CFR and what's federally required for the
22 transportation of crude oil by rail.

23 Q. And would that include volatility requirements?

24 A. That question would have to be answered by the
25 terminal. But we would ensure that the shipments met

BRIMMER / HACK

1 all federal regulations currently in effect.

2 **Q. You said you're familiar with those federal**
3 **regulations?**

4 A. I'm familiar with the federal regulations that
5 govern movement of crude oil by rail.

6 **Q. And so would that include volatility**
7 **requirements at the terminal?**

8 A. The federal regulations as they stand right now,
9 again, I'll talk about classifying the material. You
10 first must determine whether it's a liquid or a gas,
11 Class 3 flammable liquid is the proper classification,
12 and then packing group. In order to determine packing
13 group, the required testing is both for initial boiling
14 point and flash point. Those are the required tests to
15 determine proper classification.

16 **Q. So your testimony then is that whatever the**
17 **federal regulations require, that's what would happen at**
18 **the terminal?**

19 A. If I operate a terminal, I would also make sure
20 that the people that are shipping to me were shipping
21 oil that would not jeopardize the TVP requirements on
22 the tanks at my facility.

23 **Q. When you say TVP, are you talking about total**
24 **vapor pressure?**

25 A. Yes.

BRIMMER / HACK

1 Q. So let's come back to that. Let's come back to
2 the vapor pressure issue.

3 On Page 14, Paragraph 33, you state kind of a
4 similar understanding, again, of what the terminal is
5 going to require. You said it's your understanding that
6 the terminal would require customers to use only DOT-117
7 tank cars that meet federal regulations.

8 Now, that would allow customers to use what's
9 called the DOT-117Rs, the retrofit option; right?

10 A. That's correct.

11 Q. I'm going to explore that a little bit.

12 Are you familiar with the new federal
13 regulations regarding the tank cars and the phaseout? I
14 think you testified some to that.

15 A. Yes.

16 Q. So the retrofits would be retrofitted DOT-111s
17 and 1232s; right?

18 A. Yes. You could retrofit both a DOT-111 and a
19 DOT-111 CPC-1232 model.

20 Q. And I think the requirements, for example, is
21 that the non-jacketed DOT-111s, those really old cars,
22 have to be retrofitted by January of 2018; right?

23 A. For crude oil service.

24 Q. Right. Yes, for crude oil service.

25 Now, I think -- is it your understanding that

BRIMMER / HACK

1 the retrofits aren't exactly like the DOT-117s?

2 A. Well, they wouldn't be 117s if they're retrofit.
3 I guess I don't understand the question.

4 Q. Well, for example, I believe that the federal
5 regulations provide that the shell thickness on DOT-
6 111s will stay the same; they're not going to make the
7 shell as thick as the DOT-117s.

8 Is that also your understanding?

9 A. That is my understanding, yes.

10 Q. And that would be post-retrofit?

11 A. It would be post-retrofit on the shell
12 thickness, but, again, they would have to have the
13 upgrades for bottom outlet valve handles and thermal
14 protection to comply with the standard.

15 Q. And the DOT-117s also have a different grade of
16 steel. They're not going to require different steel for
17 the retrofits, right?

18 A. No, they're not.

19 Q. And the DOT-117s have a full 1/2-inch-thick head
20 shield. They're not going to require that on the
21 retrofits either, are they?

22 A. I'm sorry. Can you repeat that?

23 Q. Sure. The DOT-117s will have full
24 1/2-inch-thick head shields, but they're not going to
25 require that on the DOT-111 or 1232 retrofits.

BRIMMER / HACK

1 A. No. My understanding is that would be the
2 requirement, that the head shields which connect to the
3 jacket that's a requirement on the cars, would be
4 1/2-inch head shields, full height on any retrofit car.

5 **Q. So your understanding is that the federal
6 regulations do require that for the retrofits?**

7 A. Yes.

8 **Q. Okay. And last question.**

9 **Is it your understanding the new federal
10 regulations, they won't require extra top fitting
11 protections for the retrofitted DOT-111s that come on
12 the DOT-117s?**

13 A. To be honest, I don't know, because I've phased
14 out all my Legacy 111s. So I haven't followed that
15 particular program as closely as I would of the others,
16 because I only have the CPC-1232 cars in my fleet.

17 **Q. And when you say in "my fleet," you're talking
18 about Tesoro, not other shippers that might go to the
19 terminal; right?**

20 A. That's correct.

21 **Q. The 120s aren't required under the new federal
22 rule; right?**

23 A. No.

24 **Q. So given that it is your understanding that the
25 terminal is only going to allow customers to use**

BRIMMER / HACK

1 DOT-117s or 117Rs, you're not the person negotiating the
2 contractors for the terminal; right?

3 A. No. That would not be my job.

4 Q. You're not the person entering into and signing
5 those contracts?

6 A. No.

7 Q. So do you have an understanding of how Tesoro
8 Savage, I think your phrase was something like
9 commercial writing, how the terminal is going to engage
10 in some kind of commercial writing that will require
11 that only DOT-117s or better come into the terminal?

12 A. Yes. I would have an understanding of that and
13 I would certainly advise the joint venture as to my
14 understanding. So --

15 Q. Let me just interrupt with a question just to
16 make sure I'm clear.

17 So you're saying that you as a Tesoro marketing
18 employee would advise the joint venture on how to do
19 their contracts for tank cars?

20 A. I would advise Tesoro as a shipper. We would be
21 using the facility.

22 Q. Okay. But you wouldn't advise other shippers
23 that are using the facility?

24 A. That's not my role, no.

25 Q. Contracts between shippers and the terminal are

BRIMMER / HACK

1 not going to be public, right?

2 A. No.

3 **Q. In fact, they're highly confidential?**

4 A. I believe they are. They're commercially
5 sensitive.

6 **Q. So regulators and citizens won't know what's in**
7 **those contracts?**

8 A. If they're not part of a hearing or subpoena, I
9 would imagine no, they would have no reason to -- they
10 wouldn't know what's in those contracts.

11 **Q. Nor would they know how those contracts are**
12 **enforced or checked by the terminal?**

13 A. They would know the particular terms, but as a
14 company that operates a terminal, we have never been shy
15 about allowing regulators in our door to take a look at
16 how we're doing things, especially in Washington with
17 UTC and FRA.

18 **Q. So you show regulators the contract?**

19 A. I wouldn't show them the contracts, but I would
20 show them how we're complying to make rail safe.

21 **Q. So last week we heard some testimony about**
22 **testing for vapor pressure.**

23 **Is your understanding consistent with, I think**
24 **it was a Savage witness told us that Savage will spot**
25 **check the crude oil vapor pressure but not every car on**

BRIMMER / HACK

1 every train?

2 A. My understanding, as I listened to that
3 testimony last week, was that they would test the oil
4 that arrives at the facility. And you wouldn't do that
5 off of every single car, and you would test a composite
6 of what's unloaded.

7 **Q. Do you know whether they're going to test every**
8 **train?**

9 A. I think that that's a strong possibility. I
10 don't know for sure. But again, to ensure compliance
11 with RP 3000, we'd want to know what we're offloading.
12 So I would think we would do that -- or excuse me, the
13 terminal would do that.

14 **Q. Is Tesoro going to agree to all of these terms**
15 **in terms of vapor requirements or tank car requirements**
16 **in its contract with the terminal?**

17 A. We would comply with what the terminal requires,
18 yes. As a shipper to the terminal, we would adhere to
19 their terms as far as what tank cars are allowed and the
20 specifics of the crude oil we transport through the
21 terminal.

22 **Q. That wasn't my question.**

23 **My question is whether you would enter into a**
24 **written contract with those terms being enforceable in**
25 **that contract.**

BRIMMER / HACK

1 A. Yes, as any shipper. And --

2 Q. I don't have a question right now.

3 In your direct testimony, you talked about the
4 ECP brake system. Do you recall that?

5 A. Yes.

6 Q. And I think you said that you're making your
7 cars ECP ready but that there's currently a dispute or a
8 challenge to those requirements so they're not required
9 right now?

10 A. The mandate is still there as part of the rule,
11 but it could be modified pending the outcome of the
12 studies mandated by the FAST Act.

13 Q. And those are going to take years, right?

14 A. I think there was a time limit set on that. I
15 believe it was within two years. I'd have to review the
16 FAST Act, but I believe there was a time limit on those
17 studies.

18 Q. And I think you talked about being familiar with
19 the report about the Mosier incident.

20 Are you aware of the fact that in that report
21 one of the findings was if those brakes had been
22 employed, that consistent with modeling, fewer tank cars
23 would have derailed and one fewer would have punctured?

24 A. My recollection of that report was that the FRA
25 stated that ECP brakes may have helped in that incident

BRIMMER / HACK

1 based upon their modeling. But again, initial part of
2 that investigation, a lot still needs to be completed.

3 MS. BRIMMER: I have nothing further. Thank
4 you.

5 JUDGE NOBLE: Thank you, Ms. Brimmer.

6 Is there any other cross-examination of
7 Mr. Hack? Redirect?

8 REDIRECT EXAMINATION

9 BY MR. KISIELIUS:

10 Q. I have just one question, Mr. Hack. I want to
11 make sure for absolute clarity, Ms. Brimmer asked you
12 about the 117R and asked about the phaseout of that.

13 What's your understanding of the commitment that
14 the applicant has made to tank cars, specifically with
15 respect to the 117R? In other words, does the phaseout
16 apply to any tank car or are you committing to the 117s
17 as of the first day of operation?

18 A. The terminal is committing to only accepting
19 117s on day one operations.

20 Q. And that, according to your testimony, would
21 include 117Rs?

22 A. That's correct.

23 MR. KISIELIUS: No further questions.

24 JUDGE NOBLE: Council questions?

25 Mr. Stone?

HACK

1 MR. STONE: Good afternoon. Is vapor
2 pressure measured at the point of origin by the shipper?

3 THE WITNESS: Yes, vapor pressure is
4 measured at point of origin.

5 MR. STONE: Okay. Maybe you could help me
6 understand, based upon testimony I've read and exhibits
7 I've seen, it may be the case that the testing methods
8 for vapor pressure are not accurate below a certain
9 threshold of 25 kilopascals, and that there are some oil
10 vapor pressures that are below that point making it
11 difficult to get an accurate measurement of vapor
12 pressure.

13 Is that true?

14 THE WITNESS: My experience with different
15 crude oils that we ship would include Bakken as well as
16 some heavy waxy crude out of Utah. And there are
17 different tests that you can use for determining vapor
18 pressure. So I think that the testing agencies, again,
19 when you quit using Intertech or SGS, would select the
20 appropriate test for, say, the viscosity or the gravity
21 of the material.

22 MR. STONE: There's a reference in the
23 exhibits that the test being used for vapor pressure is
24 the ASTM D6377. I'm looking at the ASTM web page right
25 now, and it says that that test is accurate only between

HACK

1 25 and 180 kilopascals, so if you have an oil vapor
2 pressure below 25, then you can't use that test.

3 Are you saying that there's other tests that
4 would be used in that situation?

5 THE WITNESS: This is probably a little bit
6 outside my area of expertise, but I'm familiar with the
7 6377 and D323 being used to test vapor pressure.

8 MR. STONE: And those two are not accurate
9 below a certain oil pressure; is that correct?

10 THE WITNESS: I don't know. I'm not
11 familiar with what the limits are for the test. I just
12 get the results that we receive and apply them against
13 what the standards require us, again, with the
14 classification of the material.

15 MR. STONE: Okay. Well, perhaps another
16 witness could speak to that. Thank you.

17 JUDGE NOBLE: Mr. Shafer?

18 MR. SHAFER: Mr. Hack, thank you for your
19 testimony today.

20 The question on the upgrades of the tanks
21 that you reference, the wall thickness, the steel type,
22 the insulation, I presume that's primarily for two
23 purposes.

24 Would that be in the event of an accident to
25 prevent fire, and then secondly, to prevent the tank

HACK

1 from failing or cracking, to prevent spills? Is it
2 primarily those two things?

3 THE WITNESS: I would agree with that, yes.
4 You want to keep the contents inside the car. And then
5 if the contents of the tank car exposed an external
6 fire, to further protect those contents against the
7 heat-induced thermal tear.

8 MR. SHAFER: Okay. And so if I understand
9 from your testimony, that with this project the standard
10 will be the DOT-117 or higher; that's correct?

11 THE WITNESS: Yes, sir.

12 MR. SHAFER: So my question is, have the
13 types of cars that will be used with this project, have
14 they been subjected or experienced accidents such that
15 the follow-up analysis in the field of that accident,
16 was it a proven that these upgrades, material upgrades
17 in the tanks that they worked? I mean, do you have
18 actual examples of that where there was a clear
19 indication that they actually worked? That they did
20 assist with preventing spills or fires?

21 THE WITNESS: The new design, again, is very
22 recent. I don't have personal knowledge of these being
23 involved in an incident, but I think Dr. Barkan in his
24 testimony will be able to better explain the performance
25 of these tank cars versus prior models.

HACK

1 MR. SHAFER: Okay. And another question. I
2 just want to probe a little bit just on a very
3 fundamental level factors which would cause the tank
4 cars to fail; one being speed, the second being fire,
5 and the third being just a fall distance.

6 Do you know at what speed, let's just say
7 the train is traveling along the track. At what speed,
8 if a car were to roll off the track, at what speed would
9 that likely, you know, erupt to fire or, you know,
10 explode or crack or fail?

11 THE WITNESS: I would not be qualified to
12 answer that question. I think, you know, again, I'll
13 reference Dr. Barkan and his testimony about the
14 performance of the tank cars and how they would expect
15 to perform in the event of that derailment scenario you
16 spoke of.

17 MR. SHAFER: Okay. Might you know in terms
18 of a fire? I mean, if I go next to it with a blow
19 torch, is there a risk there? Does it have to be
20 engulfed in flames? Does it have to be engulfed in
21 flames for a certain period of time?

22 THE WITNESS: I think what I'd be
23 comfortable stating is that the federal regulations in
24 179.18 are with the thermal protection that's required
25 on the 117s, they are designed to protect the contents

HACK

1 against a 100-minute pool fire and then against a
2 30-minute torch fire.

3 MR. SHAFER: How about in terms of a fall
4 distance? Let's say the train is going over a bridge
5 and it's just simply a vertical fall.

6 Do you happen to know at what point it might
7 explode or erupt to cause this spill?

8 THE WITNESS: I do not know that.

9 MR. SHAFER: Okay. Thank you.

10 JUDGE NOBLE: Any other questions?

11 Mr. Snodgrass?

12 MR. SNODGRASS: I just have one question. I
13 think Mr. Shafer alluded to one of the questions I was
14 going to ask, but the similar vein about sort of in a
15 rapidly changing technological and regulatory
16 environment you're obviously very familiar with.

17 What are the Canadians doing? In general,
18 what is the differences in the regulatory response
19 regarding the cars?

20 THE WITNESS: I don't ship anything into
21 Canada, but, you know, my familiarity with the Rail
22 Policy Working Group is they've done their best to
23 harmonize their regulations with the U.S. Department of
24 Transportation regulations. But I do believe there was
25 a difference in their allowable phaseout of 1232

HACK

1 jacketed cars for Class 3 flammable liquids.

2 So I think there's some variation in the
3 phaseout schedule, but I do know that the two countries
4 collaborate very closely. In fact, there's some
5 sampling and testing going on currently where the
6 Department of Transportation and DOE are working with
7 the Canadian counterparts on studying different crude
8 oil in transportation.

9 I think they collaborate very closely, but
10 there are some subtle differences. But I don't ship any
11 trains out of Canada, so I'm not probably the most
12 qualified person to talk about that.

13 MR. SNODGRASS: Thank you.

14 JUDGE NOBLE: Questions to my left?

15 Mr. Rossman?

16 MR. ROSSMAN: Thank you for your testimony
17 today.

18 Has Tesoro made a company-wide commitment to
19 move to the 117s or is that just specific to this
20 terminal?

21 THE WITNESS: Our commitment, and we were
22 the first in the industry to remove Legacy DOT-111s from
23 our fleet and we have pledged to ship only CPC-1232 cars
24 or better, but as I explained earlier -- well, maybe I
25 didn't fully explain.

HACK

1 We lease all our railcars so we have the
2 opportunity to change out the fleet over time. And
3 currently I have 210 of these 120Js in service, and I
4 have five more trains currently under construction. So
5 by next year's timeframe, I will have, you know, seven
6 full trains running with the 120J cars.

7 So we pride ourselves on putting the best
8 available technology out on the rails, and we will
9 certainly comply with the DOT-117 requirement for the
10 Vancouver Energy Terminal, and we're running DOT-120s
11 today to Anacortes.

12 MR. ROSSMAN: Okay. From a shipper's
13 perspective, you negotiated a contract both with the
14 receiving terminal where it's going to sort of end up
15 and also with the carrier; is that right?

16 THE WITNESS: Those negotiations are handled
17 by our commercial group. Now, we will be consulted on
18 those contracts if they say, you know, John, can you
19 comply with these limits on the tank car types? I
20 review and say yes, we have 1232s or we have 120s we can
21 run there. If there's really rail-centric
22 specifications, I would be consulted on those before the
23 commercial terms are finalized.

24 MR. ROSSMAN: Got it. I saw in your
25 testimony that the carrier is responsible for things

HACK

1 like the constitution of the trains and the route and
2 the timing. And I was wondering how both from the
3 shipping and the receiving perspective, if the terminal
4 is intending to sort of offload four trains a day but
5 it's up to the carrier, how the timing of the trains
6 works out.

7 Are there contracts in place that regulate
8 that four trains will arrive per day, or is it just at
9 the mercy of however BNSF decides to do its operations?
10 How does that work?

11 THE WITNESS: I would love that if they had
12 delivery schedules. Unfortunately, the danger of rail
13 operations is that there are going to be delays and
14 they're going to prioritize trains, such as Amtrak
15 passenger service. So they will deliver the trains on
16 their schedule. And, for example, at our Anacortes
17 receiving facility we operate on a 24-by-7 basis. We're
18 ready to receive the train when it comes there, because
19 it may show up at 1 a.m. one day and show up at 3 p.m.
20 the next day. It's not rateable like that.

21 MR. ROSSMAN: So what happens when a train
22 shows up late and then the next one shows up early?
23 Where does that one sit while you're offloading the one
24 that arrived late?

25 THE WITNESS: Just to be clear on your

HACK

1 question, is that in the instance of Anacortes?

2 MR. ROSSMAN: Well, both in the specific and
3 generally.

4 THE WITNESS: Sure. At Anacortes we can
5 hold a fully loaded train as well as an empty train
6 that's ready to depart, so we can house two trains in
7 our facility. If there's a next load that shows up and
8 let's say, we call it bunching, they bunched them up
9 because typically they don't leave the origin terminal
10 back to back; there's 18 to 36 hours between the trains.
11 But if along the route something happens and the trains
12 get close together, again in the case of Anacortes, BNSF
13 would hold the train probably in Everett or one of their
14 siding tracks along the way until I have room to hold it
15 at my facility.

16 And at the Vancouver Energy Terminal, they
17 would be able to hold several trains inside the
18 facility. If that capacity is exceeded, then the BNSF
19 would hold that train and place it within one of their
20 yards until such a time as the terminal can receive it.

21 MR. ROSSMAN: So the terminal has the
22 ability to determine when it will and will not receive
23 trains although it does not have the ability to command
24 when the train will arrive; is that fair?

25 THE WITNESS: I think they are relying on

HACK

1 the railroad to deliver the trains. Once they've
2 achieved full capacity at the terminal, then it's up to
3 the terminal to make room for more trains. But if they
4 are not at full capacity, then the railroad will just
5 keep bringing in trains until they fill them up.

6 MR. ROSSMAN: On an -- so turning to the
7 various other types of various potential safety upgrades
8 for the trains, the braking system, your testimony I
9 think was that in your new orders of cars you're going
10 to have them ready but not have that equipment installed
11 until it's clear whether that mandate is coming down or
12 isn't; is that right?

13 THE WITNESS: That's correct.

14 MR. ROSSMAN: Okay. I also saw in your
15 testimony that you played a key role, I think is how you
16 put it, in getting Tesoro to make a purchase of the 120
17 cars instead of 117s; is that right?

18 THE WITNESS: Well, if I may, the decision
19 on the 120Js, again this was done in 2014, long before
20 the final rule was out. So in my role in being
21 responsible for rail transportation, we were trying to
22 predict what that rule would be, what that tank car
23 would look like when the final rule came out, because
24 production of these cars would begin about the same time
25 as the final rule is expected.

HACK

1 So we looked for cars that would satisfy the
2 requirements we felt would be in the final rule, and I'm
3 very pleased that the 120J, you know, satisfied all the
4 requirements of the 117 and more.

5 MR. ROSSMAN: Okay. And I think I recall
6 from your testimony about the Mosier incident that the
7 cars there were jacketed 1232s with insulation but not
8 heat shielding. Was that -- did I hear that right?

9 THE WITNESS: The Mosier cars were jacketed
10 CPC-1232 cars, so they had the jacket, they had the
11 yellow thermal insulation, but they did not have the
12 thermal protection of the ceramic fiber insulation.

13 MR. ROSSMAN: So I wanted to make sure that
14 the model we have there of the 1232 isn't like those
15 1232s.

16 THE WITNESS: No. Those particular 1232
17 cars, what you would have the jacket plus this yellow
18 fiberglass insulation. So this is the model of an
19 unjacketed CPC-1232 car. Jacketed, again, would have
20 the exterior in the fiberglass insulation.

21 MR. ROSSMAN: But I also think I recall you
22 testifying that the yellow insulation is for the purpose
23 of conditioning the temperature of the contents, not for
24 fire protection, based on your understanding of what the
25 regulatory requirements were.

HACK

1 THE WITNESS: It is not the means for
2 thermal protection of the car, no, but it would be
3 expected -- I'll let Dr. Barkan answer that.

4 MR. ROSSMAN: So, but what I'm getting at
5 is, the cars that would be expected at the Vancouver
6 Energy facility, they would have the thermal protection
7 but wouldn't necessarily have the insulation layer, but
8 they'd have the thinner white thermal protection layer;
9 is that right?

10 THE WITNESS: Yes, that's right. And this
11 model would represent what that looks like. DOT-117A
12 would have the 9/16th tank shell, required to have the
13 thermal protection with this 1/2-inch of ceramic fiber
14 and the jacket. This is exactly what they would look
15 like on a cross-section.

16 MR. ROSSMAN: Okay. I think that's all the
17 questions I had. Thanks.

18 JUDGE NOBLE: Mr. Moss?

19 MR. MOSS: Good afternoon. I'm not sure I
20 got your testimony correct.

21 I didn't take a note on the particular
22 point, but did you say that Tesoro, the Anacortes
23 facility is receiving eight unit trains now per week?

24 THE WITNESS: No. We ship about five to six
25 trains per week to Anacortes.

HACK

1 MR. MOSS: Five to six to Anacortes.

2 THE WITNESS: Yes, sir.

3 MR. MOSS: If you max out the capabilities
4 of the terminal at Anacortes, how many could you ship?

5 THE WITNESS: That's a good question that we
6 haven't explored because we're limited to, by AAR
7 permit, to 50,000 barrels a day. That's all we can
8 offload there.

9 MR. MOSS: Is the Bakken crude that you're
10 getting via those five or six trains a week, is that
11 adequate for the facility's needs?

12 THE WITNESS: No. It does not satisfy the
13 full requirements to run the refinery at full capacity.
14 We receive crude from other sources.

15 MR. MOSS: Where would those sources be?

16 THE WITNESS: They would come via marine or
17 pipeline.

18 MR. MOSS: Okay. Thank you.

19 JUDGE NOBLE: Mr. Siemann?

20 MR. SIEMANN: Good afternoon. I wanted to
21 ask you just about liability. We've been through this a
22 number of times, so this is probably sort of a retread
23 here but I just want to get really clear.

24 There's this care and custody concept and
25 there's also a liability concept. And I'm wondering if

HACK

1 you can just walk me through from the loading of the
2 trains in North Dakota to the loading of the ship at
3 Vancouver.

4 At which points does Tesoro have liability?
5 I'm not talking about care and custody. It may be the
6 same thing, but what I'm interested in is when does
7 Tesoro have liability for any kind of spill, damage,
8 catastrophe, those sorts of things?

9 THE WITNESS: As the owner of the commodity,
10 I think they mentioned in testimony that state liability
11 laws differ. But from the time that that train is
12 loaded, we would own the commodity, even in
13 transportation and to the terminal. Now, I can't really
14 speak to what goes on past the offloading of the train
15 because that's not really my area.

16 But I would know in the way the terminal is
17 designed to operate as a transfer point, we as Tesoro
18 would own our commodity throughout the whole process.
19 There's no change in ownership along the route.

20 We talked a little bit about care and
21 custody, and I think if there is an incident, the
22 railroad is going to be expected to respond and they
23 will respond first. And we would be there to assist
24 them if asked.

25 MR. SIEMANN: What I'm interested in is

HACK

1 financial liability.

2 THE WITNESS: I'm probably not the best one
3 to talk about financial liability. That falls more with
4 the insurance and the folks that handle that. I'm more
5 strictly an operations guy.

6 MR. SIEMANN: Thank you.

7 JUDGE NOBLE: Mr. Rossman?

8 MR. ROSSMAN: Thanks. I'm sorry. I had
9 some questions that were leading up to this, but I had
10 forgotten what I was really trying to get at, which is,
11 in terms of, you testified that from the shipper
12 perspective, equipping your cars with the new braking
13 control wouldn't necessarily be effective because the
14 railroad would have the choice whether or not to put a
15 locomotive on that met that new braking system; is that
16 right?

17 THE WITNESS: Yes, that's correct.

18 MR. ROSSMAN: Would the terminal or the
19 shipper have any ability to provide by contract that it
20 would either only ship or only receive trains that had
21 that braking system in place?

22 THE WITNESS: I don't think they would.
23 Again, the railroads have to not only equip their
24 locomotives but train their crews, and the way that
25 their power is interchanged, and this is, again, a

BRIMMER / HACK

1 federally regulated mode of transportation so we're not
2 usually successful in telling BNSF how to run their
3 business.

4 MR. ROSSMAN: Why is it then different with
5 the cars in terms of saying you're only going to accept
6 or only ship a certain type of car?

7 THE WITNESS: BNSF doesn't own any tank
8 cars. That's all the shippers that are responsible for
9 the tank cars. Again, we're responsible for classifying
10 the material and packaging the material in the tank car,
11 and then the railroad has the common carrier obligation
12 to pick those tank cars up and ship them to the
13 destination of our choice.

14 MR. ROSSMAN: Okay, got it. Thank you.

15 JUDGE NOBLE: Any further council questions?
16 All right.

17 Questions based on council questions.

18 RE-CROSS-EXAMINATION

19 BY MS. BRIMMER:

20 Q. Mr. Hack, there were some questions about the
21 care and custody and also about the ability of Tesoro at
22 the terminal to control what's coming into the terminal.
23 And so when you get something that doesn't conform, what
24 happens then? Like where does the train go? Where do
25 the cars go? Who has to come pick them up? What's the

BRIMMER / HACK

1 process at that point in time?

2 A. I guess I'd ask you to clarify, when you say
3 something's not right, what in particular?

4 Q. Sure. Specifically I'm talking about your
5 testimony about what would and would not be accepted at
6 the terminal, whether it is crude oil of a particular
7 nature or tank cars of a particular type. Let's
8 concentrate on those.

9 A. So the tank cars, again, we would look at the
10 stencil on the tank car. And in the very unlikely
11 scenario that the tank car shows up that's not a
12 DOT-117, we would notify the shipper and we wouldn't
13 offload the car. We'd send it back to them.

14 Q. Then what happens to it?

15 A. Return to sender.

16 Q. Okay. So it comes into the terminal, it sits in
17 the terminal, you say return to sender. How does that
18 happen?

19 A. Via rail. BNSF would pick it up and transport
20 it back.

21 Q. And who makes those arrangements?

22 A. We would -- well, excuse me. The terminal would
23 communicate with BNSF to pull that car out.

24 Q. Is that also a contractual arrangement with
25 BNSF?

BRIMMER / HACK

1 A. Well, BNSF will transport tank cars at the
2 request of the shipper, so it's not necessarily a
3 contracted item. You offer it in transportation and
4 they'll come pick it up and move it.

5 Q. So I'm going to relay to you what my
6 understanding of what you're saying is and you tell me
7 where it's right or wrong.

8 So the shipper picks the cars, they send it to
9 the facility on BNSF. It gets there, something's wrong.
10 The car is wrong, the oil is wrong, it's not in
11 compliance with the contract. So you pull that car out
12 and you return it to sender and you make arrangements
13 with BNSF.

14 Does the terminal make those arrangements, or
15 does the shipper make those arrangements?

16 A. So it's both. You would notify the shipper that
17 they have a non-compliant car, where do you want it?

18 So they would tell me, where do you want me to
19 ship it? And the terminal would actually bill the car
20 out, or the shipper could do it too, but either/or.
21 When I say bill it out, provide the shipping documents
22 and ask the railroad to come get it.

23 Q. So there's sort of some interaction between the
24 various contracting parties and somebody's got to agree
25 to deal with it.

BRIMMER / HACK

1 Is that a fair characterization?

2 A. If it were my terminal at Anacortes and I had
3 somebody ship me a car that was out of compliance, I
4 certainly would notify the shipper right away and tell
5 them that they have done that.

6 **Q. And then in response to Mr. Rossman's questions**
7 **at the end, I think you said that you can't tell BNSF**
8 **how to run their business, in response to some questions**
9 **about the braking system, but that tank cars are**
10 **different because the railroad doesn't own the cars. Is**
11 **that an accurate portrayal of what you said?**

12 A. Yes.

13 **Q. So the railroad doesn't own the cars that would**
14 **have the braking system either, but that's different**
15 **because it requires the locomotive to be outfitted to**
16 **use the braking system; is that right?**

17 A. The locomotives would have to be equipped to run
18 the ECP consoles on the cars, and the crew would have to
19 be qualified to run that particular braking system.

20 **Q. And you can't contractually -- you as a shipper**
21 **can't contractually ask or enter into an agreement with**
22 **the railroad in the same way you can enter into an**
23 **agreement about the types of cars that get used?**

24 A. We do not enter into operational agreements with
25 the railroad, and most of our agreements are freight

1 based. But since they are regulated by the federal
2 government and interstate commerce, that that -- again,
3 we would leave that up to them to operate the trains.

4 **Q. Tank cars are regulated by the federal**
5 **government too; right?**

6 A. Yes, they are.

7 MS. BRIMMER: Nothing further.

8 JUDGE NOBLE: Mr. Kisielius?

9 MR. KISIELIUS: I don't have any further
10 questions. Thank you.

11 JUDGE NOBLE: Mr. Hack, thank you for your
12 testimony. You are excused as a witness.

13 THE WITNESS: Thank you.

14 JUDGE NOBLE: It's time for our afternoon
15 break.

16 MR. JOHNSON: Your Honor, just for council's
17 benefit, the only remaining witness we'll have for this
18 afternoon is Ken Ames and we'll be doing that by
19 telephone. So we can work with staff to get that set
20 up, but I just wanted the council to know because I
21 don't think we had put that on the list for today.

22 JUDGE NOBLE: We may have a little bit --
23 need a little bit more time. So 3:20?

24 MR. JOHNSON: Okay.

25 JUDGE NOBLE: Off the record.

1 (Recess taken from 3:03 p.m. to 3:23 p.m.)

2 JUDGE NOBLE: Now, I think we're ready, and
3 as I understand it, you'll be making the phone call.
4 And we have two questions, as I understand it, one from
5 Mr. Stone and one from Mr. Siemann. And the court
6 reporter tells me that you did a test and she should be
7 able to hear. But she'll let us know if there are
8 problems.

9 We seem to be back on the record. So go
10 ahead and make the phone call. I'll just swear him in
11 when you make contact.

12 MR. JOHNSON: All right, Your Honor. And I
13 would just ask that when we tested it, we could hear him
14 fine but he's having a little trouble, so if folks could
15 speak up and we'll try to work our way through it. Here
16 we go.

17 JUDGE NOBLE: He should let us know right
18 away if he can't hear.

19 MR. JOHNSON: Mr. Ames, this is Dale
20 Johnson. Can you hear me okay?

21 THE WITNESS: Yes, I can.

22 MR. JOHNSON: Great. We can hear you too.

23 JUDGE NOBLE: Call your next witness,
24 Mr. Johnson.

25 MR. JOHNSON: The applicant calls Mr. Ken

JOHNSON / AMES

1 Ames.

2 KEN AMES,

3 (Present telephonically)

4 having been first duly sworn, testified as follows:

5 JUDGE NOBLE: Please proceed.

6 DIRECT EXAMINATION

7 BY MR. JOHNSON:

8 Q. Mr. Ames, can you state your full name for the
9 record and then spell it for the court reporter, please.

10 A. It is Kenneth Carl Ames. That's K-e-n-n-e-t-h,
11 C-a-r-l, A-m-e-s.

12 Q. All right. Thank you.

13 And, Mr. Ames, you filed prefiled testimony in
14 this matter; is that correct?

15 A. Yes.

16 Q. Okay. And your CV was attached to your prefiled
17 testimony; is that right?

18 A. That's my understanding, yes.

19 MR. JOHNSON: And for the benefit of the
20 council, that's at Exhibit 355.

21 Mr. Ames, I don't have any questions for you
22 starting out today. However, there are a couple of the
23 council members who do. So at this time, I'm going to
24 turn it back to Judge Noble to direct that question.

25 JUDGE NOBLE: Mr. Ames, Council Member Stone

AMES

1 has a question for you.

2 MR. STONE: Good afternoon, Mr. Ames. My
3 name is Ken Stone, I'm a council member. Thank you for
4 making yourself available this afternoon.

5 I have a question regarding your prefiled
6 testimony having to do with the potential impact to
7 groundwater from train accidents and spills. And I'm
8 looking at Paragraph Number 28 of your prefiled
9 testimony. And in that paragraph you stated, and this
10 is a quote, "However, it is anticipated, as required by
11 Federal and State laws, that there would be an immediate
12 response to any of the spills described above at all
13 locations along the BNSF route through Washington, which
14 would include the removal of petroleum-contaminated
15 soils that would minimize any longer-term dissolution
16 and transport of COCs to the underlying groundwater."

17 So my question is, given that there's a
18 possibility that the response would not be immediate,
19 how would that change your analysis of impacts to
20 groundwater and other water resources?

21 THE WITNESS: Well, I don't know how you
22 would phrase "immediate" or "non-immediate" or change
23 that. They're required to respond in an immediate
24 fashion. That doesn't mean instantaneously; that means
25 in an immediate fashion. They would mobilize to the

AMES

1 site just as anyone that's carrying petroleum or handles
2 petroleum stored on their site would respond to an
3 emergency responder.

4 MR. STONE: Well, I understand what you're
5 saying, that it's required that the response would be
6 immediate. In actuality, it may not be immediate. It
7 could be hours or days before that contaminated soil is
8 removed.

9 If it was a matter of hours or days, is
10 there potential for groundwater resources to be
11 contaminated by that spill?

12 THE WITNESS: I had a difficult time hearing
13 your last question or statement.

14 MR. STONE: So I understand your testimony
15 to say that immediate response is required. That
16 doesn't mean that immediate response will actually
17 happen, and it could in fact be hours or days before
18 petroleum-contaminated soil is removed, as you state in
19 your testimony.

20 So if it was that long, that much of a delay
21 before the soil is removed, is there potential for
22 groundwater resources to be contaminated by a spill?

23 THE WITNESS: It's possible, but likely not
24 probable. It depends on the amount of petroleum
25 spilled. It depends on the matrices of the soil. It

AMES

1 depends on the depth to groundwater.

2 But oil does not -- petroleum doesn't travel
3 through the soil through the Vadose zone in the same
4 manner that, say, water would. And that's why it takes
5 anywhere from hours to days to even sometimes weeks to
6 see any type of migration of the petroleum products.

7 MR. STONE: So in the case of a lighter
8 crude oil, which may be transported as a result of this
9 proposal, that does have the potential to travel
10 relatively fast through the soil, does it not?

11 THE WITNESS: No, it doesn't travel through
12 the soil as water would. And the denser the petroleum
13 product, the more quickly you would actually transfer
14 through the soil, migrate through the soil.

15 MR. STONE: So you're saying that it really
16 depends upon the nature of the oil, the nature of the
17 soil in terms of its porosity, depth to groundwater.
18 There's several factors that would be involved to be
19 able to answer that question?

20 THE WITNESS: That's correct.

21 MR. STONE: But what I'm getting at is, your
22 statement on its face I can't accept, because the
23 response in many cases may not be immediate, and I think
24 there's a pretty plain meaning of what "immediate"
25 means. It just seems to me that that's a very broad

AMES

1 statement that is very hard to back up.

2 THE WITNESS: Did you have a question?

3 MR. STONE: I'm done. Thank you.

4 JUDGE NOBLE: Now, Mr. Siemann, did you have
5 a question?

6 MR. SIEMANN: Yes. Thank you.

7 Mr. Ames, again thank you for joining us on
8 this phone call.

9 JUDGE NOBLE: Can you hear him, Mr. Ames?

10 THE WITNESS: I'm having a very difficult
11 time hearing him.

12 MR. SIEMANN: I'll try to speak up a little
13 louder. Is this better?

14 THE WITNESS: Thank you. Yes.

15 MR. SIEMANN: Great. My questions are
16 somewhat similar.

17 So in Paragraph 27, which starts on Page 11
18 and continues on Page 12 of your prefiled testimony, on
19 Page 12, there's a line that says, "Although the water
20 table in the unconfined water-bearing unit is
21 considerably shallower in the City of Washougal, the
22 amount of free-petroleum product to reach the water
23 table as a result of even a large or EWCD spill type" --

24 THE WITNESS: First of all, I'm having a
25 very difficult time following your statement or your

AMES

1 question. And if you could tell me where you're finding
2 that from again? That might be easier for me to follow.

3 MR. SIEMANN: Sure. It's Paragraph 27 on
4 Page 11 and 12 of your prefiled testimony.

5 THE WITNESS: Okay.

6 JUDGE NOBLE: Do you have that with you
7 there, Mr. Ames?

8 THE WITNESS: I have a Paragraph 27 that
9 says, "It is important to note the migration of any
10 LNAPL product" -- is that what you were saying?

11 MR. SIEMANN: I'm looking at something
12 different.

13 MR. JOHNSON: Paragraph 27 is on the bottom
14 of Page 11 of your prefiled testimony.

15 THE WITNESS: Yes, that's what I have.

16 MR. SIEMANN: It starts, "As a result of the
17 analysis above."

18 THE WITNESS: It says, "As a result of the
19 analysis above."

20 Is that what you said?

21 MR. SIEMANN: That's correct. That's the
22 beginning.

23 THE WITNESS: Okay. Now I follow you. I'm
24 sorry.

25 MR. SIEMANN: And then a couple of sentences

AMES

1 down it starts, "Although the water table in the
2 unconfined water-bearing unit" --

3 Do you see that?

4 THE WITNESS: Yes.

5 MR. SIEMANN: -- "is considerably shallower
6 in the City of Washougal, the amount of free-petroleum
7 product to reach the water table as a result of even a
8 large or EWCD spill type should be negligible,
9 especially with an immediate and appropriate response to
10 the spill."

11 So first of all, I want to ask, how do you
12 define "negligible"?

13 THE WITNESS: Well, looking at the amount of
14 free product, it might actually breach the saturated
15 zone. Even, again, that the depth of water in the City
16 of Washougal in the area of the rail line, as I would
17 understand it, about 30 feet below ground surface, which
18 is still quite a considerable depth for any petroleum to
19 reach that depth in any short amount of time.

20 MR. SIEMANN: So in the event of a large or
21 an extreme worst-case spill, which are two of the types
22 of spills that you model, over the 30-foot depth of the
23 Washougal's water supply and in the absence of a
24 response to the spill, how many hours would it take for
25 free-petroleum product to contaminate the water supply

AMES

1 beyond a negligible level?

2 THE WITNESS: How many hours would it take
3 for free-petroleum product to reach the water-bearing
4 unit?

5 MR. SIEMANN: Well, to contaminate the water
6 supply beyond a negligible level.

7 THE WITNESS: It would perhaps take days or
8 weeks for the petroleum product to travel to that depth
9 given, depending on where it was spilled, the area, the
10 overall area at the surface it was spilled, and the
11 amount of petroleum product that was spilled. And it's
12 it really comes down to the amount of petroleum product
13 that spilled that determines actually just how deep and
14 how quickly that petroleum product can travel through
15 the Vadose Zone.

16 MR. SIEMANN: Are you familiar with the area
17 around the Washougal's water supply?

18 THE WITNESS: Yes, I am.

19 MR. SIEMANN: So assuming a large or
20 worst-case spill, so that's sort of defining the amount
21 of oil that is spilled and looking -- and using the soil
22 types around Washougal's water supply and the 30-foot
23 depth, can you be more specific?

24 THE WITNESS: I'm having a hard time
25 hearing. Be more specific as to what?

AMES

1 MR. SIEMANN: So you just I think said that
2 the degree of pollution or contamination depends on the
3 soils and the amount of oil spilled and the type of oil.
4 And what I'm trying to do is remove some of those
5 variables by using the specific soil types in Washougal,
6 the 30-foot depth, and using the large and extreme
7 worst-case spill types which you modeled. So that gives
8 you the amount.

9 Now I'm asking how many hours it would take
10 for the free-petroleum product to contaminate the water
11 supply beyond a negligible level.

12 THE WITNESS: Well, first of all, based on
13 my calculations, you have the extreme worst-case
14 scenario. It's unlikely that free product will even
15 reach the water supply. So then it would come down to
16 the amount of response time to dissolve petroleum
17 product that might actually reach the aquifer supply.

18 MR. SIEMANN: All right. Thank you very
19 much.

20 JUDGE NOBLE: Mr. Ames, I have a couple of
21 questions now based upon those questions of the council
22 members. This is Judge Noble.

23 First of all, how familiar are you with the
24 soils adjacent and under the City of Washougal,
25 Washington?

AMES

1 THE WITNESS: I am very familiar with them.
2 When I was with the U.S. Geological Survey and Water
3 Resources Division, I did an extensive survey in Clark
4 County to determine a background concentrations of
5 metals and soils --

6 (Court reporter interruption.)

7 JUDGE NOBLE: Mr. Ames, slow down, slow
8 down. The court reporter is having a difficult time
9 following you, so back up a little bit and slow down.

10 THE WITNESS: Okay. I'm sorry.

11 MR. JOHNSON: The last thing she got was, "I
12 did an extensive survey."

13 So can you please pick up there?

14 THE WITNESS: Sure.

15 When I was with the U.S. Geological Survey
16 Water Resources Division, I did -- I led an extensive
17 survey of Clark County to ensure the background
18 concentrations of metals and soils and streambed
19 sediments for which I needed to understand the geology
20 of the entire area. There are very few parts of Clark
21 County that I have not been to, but Washougal is
22 certainly one of them. So I'm very familiar with the
23 geology of the area and have actually collected many
24 soil samples in that area myself.

25 JUDGE NOBLE: And my second question is,

AMES

1 your primary method of response to a spill over the
2 Washougal aquifer would be removal of the soils above
3 the aquifer; is that right?

4 THE WITNESS: That's commonly what is
5 performed and required to be performed. The sooner that
6 you remove the petroleum product, the
7 petroleum-contaminated soil, the less chance you have of
8 any soluble products actually starting to migrate down
9 towards any water body.

10 JUDGE NOBLE: All right. Thank you. I
11 don't have any more questions.

12 Mr. Moss has a question now.

13 MR. MOSS: I just wanted to follow up,
14 Mr. Ames. This is Dennis Moss on the council.

15 I wanted to know, you talk about removal of
16 the contaminated soil after a day, for example. To what
17 depth would you need to be removing soil based on the
18 Washougal soil types?

19 THE WITNESS: Well, it would again come down
20 to the amount of petroleum spilled, but you could be
21 removing soil to depths of 1, 2, 5, perhaps as much as
22 even 10 feet.

23 MR. MOSS: Okay. Thank you.

24 JUDGE NOBLE: Are there any other questions
25 for Mr. Ames?

AMES

1 Did counsel want to ask questions based on
2 council questions?

3 REDIRECT EXAMINATION

4 BY MR. JOHNSON:

5 **Q. Mr. Ames, this is Dale Johnson again.**

6 **Is Table 1, which is on Page 11 of your prefiled**
7 **testimony, does that reflect the anticipated depth of**
8 **migration of what you've said is light, non-active phase**
9 **liquid into the Vadose Zone?**

10 A. Is reflective of that, yes, given the most
11 conservative scenario for coarse-grain sediments that
12 would allow the greatest amount of potential transport
13 and the least amount of absorption of petroleum products
14 in the soil.

15 MR. JOHNSON: Thank you.

16 JUDGE NOBLE: All right. Mr. Ames, thank
17 you for your testimony. You are excused as a witness.
18 We do appreciate yourself making available this
19 afternoon.

20 THE WITNESS: All right. Thank you. My
21 pleasure.

22 JUDGE NOBLE: Mr. Johnson, are there any
23 further witnesses this afternoon?

24 MR. JOHNSON: No, Your Honor. And I
25 apologize to the council for not filling the entire

1 afternoon with additional testimony. I didn't mean that
2 to be a lighthearted comment.

3 We are doing our best to use your time
4 judiciously, and, unfortunately, while we did think that
5 Mr. Dunn might be available today, it turned out he was
6 not. And I can promise you that we do have a full day
7 of testimony for tomorrow. And I'm happy to run through
8 who our witnesses are, Your Honor.

9 JUDGE NOBLE: I'd like it if you do that
10 now. Thank you.

11 MR. JOHNSON: And I also would note that
12 because we didn't know how many phone witnesses we would
13 have this afternoon, we thought we might be on the phone
14 awhile longer with folks.

15 JUDGE NOBLE: It's my understanding that the
16 council has now addressed all the questions that they
17 had based upon the witnesses that you all have said that
18 you will not be either calling or needing to
19 cross-examine.

20 MR. JOHNSON: Yes, Your Honor, and that does
21 help us plan our remaining witnesses.

22 JUDGE NOBLE: Good. Now for tomorrow.

23 MR. JOHNSON: So, tomorrow. Michelle
24 Hollingsed, who did not file prefiled testimony here,
25 she's a fact witness, she'll be talking about financial

1 assurances to include insurance and other mechanisms for
2 meeting those requirements.

3 MR. MOSS: Could you spell that last name?

4 MR. JOHNSON: Yes. It's

5 H-o-l-l-i-n-g-s-e-d. And then we'll present Elliott
6 Taylor who did file prefiled testimony. His primary
7 areas are spill preparedness and response. Mr. Taylor
8 will be primarily rebutting the testimony of Susan
9 Harvey.

10 We will then present Greg Challenger. He
11 also filed prefiled testimony, and his primary area is
12 spill-related biology. He will be primarily
13 rebutting -- again, I'll use last names -- Holmes and
14 English; Parker, Blaine Parker; Lumley, Dick, and Rice.

15 And then we will be presenting Brian Dunn
16 who did traffic analysis related to railroad crossings.
17 He did also file prefiled testimony. And we'll be
18 primarily rebutting James Wechner, Lopossa and Monaghan.
19 So that's our slate for tomorrow.

20 My understanding is there's a list of
21 exhibits regarding Ms. Hollingsed's testimony which has
22 already been provided at least to Ms. Mastro and perhaps
23 to Ms. Wraspir as well, so that you can communicate that
24 to the council.

25 JUDGE NOBLE: Just for Witness Hollingsed?

1 MR. JOHNSON: Well, we're working on the
2 others. I don't know that that's already been
3 transmitted, but I'll go back and check and try to get
4 that to you as soon as we can.

5 JUDGE NOBLE: Thank you.

6 MS. BOYLES: Could we get that list as well?

7 MS. BRIMMER: We asked for that previously.

8 MR. JOHNSON: I know you did and I'll make
9 that available to you.

10 MS. REED: A point of clarification. Is the
11 order that you gave us of the witnesses, is that the
12 order that you expect to present?

13 MR. JOHNSON: That is the anticipated order
14 of witnesses, barring any late arrivals or snafus.

15 MS. REED: Okay. Thank you.

16 JUDGE NOBLE: We must always plan for
17 snafus. Well, thank you very much for that.

18 Is there anything else we need to do either
19 on or off the record before we adjourn for today? There
20 being nothing, we are adjourned until 9:00 tomorrow
21 morning.

22 (Proceedings adjourned at 3:45 p.m.)

23

24

25

C E R T I F I C A T E

1
2
3 STATE OF WASHINGTON)
4) ss.
5 COUNTY OF SNOHOMISH)

6 THIS IS TO CERTIFY that I, Diane Rugh, Certified
7 Court Reporter in and for the State of Washington,
8 residing at Snohomish, reported the within and foregoing
9 testimony; said testimony being taken before me as a
10 Certified Court Reporter on the date herein set forth;
11 that the witness was first by me duly sworn; that said
12 examination was taken by me in shorthand and thereafter
13 under my supervision transcribed, and that same is a
14 full, true and correct record of the testimony of said
15 witness, including all questions, answers and
16 objections, if any, of counsel, to the best of my
17 ability.

18 I further certify that I am not a relative,
19 employee, attorney, counsel of any of the parties; nor
20 am I financially interested in the outcome of the cause.

21 IN WITNESS WHEREOF I have set my hand this 21st
22 day of July, 2016.

23
24
25 DIANE RUGH, RPR, RMR, CRR, CCR
CCR NO. 2399