

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:

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Cullen Stephenson, Department of Ecology
Joe Stohr, Department of Fish and Wildlife
Dennis Moss, Utilities and Transportation Commission
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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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1 PROCEEDING

2 JUDGE NOBLE: It is July 13, 2016. We're
3 back on the record before the State of Washington Energy
4 Facility Siting Council in the matter of Application
5 No. 2013-01, Tesoro Savage LLC Vancouver Energy
6 Distribution Terminal.

7 All counsel is present and we are ready for
8 our first witness this morning. So could I have you
9 call your first witness.

10 MR. POTTER: Yes, Your Honor. We call
11 Michael Hildebrand.

12 MICHAEL HILDEBRAND,
13 having been first duly sworn, testified as follows:

14 JUDGE NOBLE: You may proceed.

15 DIRECT EXAMINATION

16 BY MR. POTTER:

17 **Q. Mr. Hildebrand, please state your name and give**
18 **us the spelling of your last name.**

19 A. Michael S. Hildebrand.

20 **Q. Mr. Hildebrand, how are you employed?**

21 A. Let me spell my last name.

22 **Q. I'm sorry.**

23 A. H-i-l-d as in delta, E as in echo, B as in
24 bravo, r-a-n-d, as in delta.

25 **Q. Thank you.**

1 **How are you employed?**

2 A. Go ahead, sir.

3 **Q. How are you employed?**

4 A. I'm a consultant with Hildebrand and Noll
5 Associates, Inc. My business partner, Gregory G. Noll,
6 and I have been in business, this is our 27th year
7 consulting.

8 **Q. What type of services does Hildebrand and Noll
9 Associates provide to its clientele?**

10 A. We provide emergency planning and response
11 services. We conduct operational readiness reviews of
12 special operations teams, HAZMAT response teams, folks
13 that deal with dangerous materials. We write and review
14 emergency plans and procedures, and we specialize in
15 hazardous materials emergency response.

16 We also design -- plan, design and conduct
17 exercises and occasionally we'll work investigations,
18 typically involving HAZMAT response where responders
19 have been injured or killed in the line of duty.

20 **Q. Could you give us an idea of the type of
21 clientele that you have, whether they're private,
22 public?**

23 A. Yes. Our main markets are the U.S. military,
24 public safety agencies, and companies that manufacture
25 hazardous materials. So typically that would be

1 refineries, chemical plants, pipelines, gas plants,
2 offshore platforms, industry, military and public
3 safety.

4 **Q. And just if you would, please, review your**
5 **education, your training and your experience as it**
6 **relates to hazardous material emergency planning and**
7 **response?**

8 A. I've been in the bad day business for
9 44 years -- (Court Reporter interruption.) The bad day
10 business. Everything we deal with involves fires, oil
11 spills, chemical incidents, and so forth. I guess I
12 started my career when I was 12. My dad made explosives
13 for 32 years and that kind of got the hook into me about
14 safety and the importance of following procedures and
15 then dealing with dangerous materials.

16 I graduated from the University of Maryland at
17 College Park with a Bachelor of Science degree in fire
18 safety analysis and investigation, and I also have an
19 associate's degree in fire science.

20 **Q. And your work experience?**

21 A. My work experience, I entered the United States
22 Air Force and was an Air Force firefighter. In my
23 military service for four years, during that time, I
24 worked in crash rescue with assignments in the U.S. and
25 overseas. During that time, I dealt with flammable

1 liquids almost on a daily basis. I've been involved in
2 both civilian and military aircraft crashes with
3 fatalities.

4 Got an honorable discharge, left the Air Force,
5 and finished my education at the University of Maryland.
6 And then I moved on to the National Transportation
7 Safety Board where I was a HAZMAT technician, and I
8 assisted investigators in major investigations.

9 While I was at NTSB, I worked on a special
10 project where we were trying to map major accidents
11 against fatalities in the location of the release. And
12 that was an interesting project because I was given
13 access to all of the past major case files involving
14 railroad accidents. So I got to review all the evidence
15 in original case files that were retired from incidents
16 like Kingman, Arizona, which -- (Court Reporter
17 interruption.) Kingman, Arizona, which was an LPG car
18 explosion which killed 15 firefighters. I got access to
19 and reviewed the famous Waverly, Tennessee, derailment
20 which resulted coincidentally in also 13 firefighter and
21 police officer fatalities and so forth. So the point is
22 I got to see a lot of really interesting cases and
23 learned a lot under some really first rate senior
24 investigators.

25 From there, I moved on to the International

1 Association of Fire Chiefs, and while I was at the IAFC,
2 I worked on a project where we produced the disaster
3 management handbook.

4 From there I went on to the American Petroleum
5 Institute where I was the director of safety and fire
6 protection. I spent nine years and three months at API.
7 As the director of API, I was responsible for looking at
8 accidents involving fatal accidents and injuries
9 involving fatalities. I managed our engineering
10 standards program and regulatory affairs program.

11 From there, I moved on to a consulting company
12 called HAZMAT TISI where I was the chief technical
13 officer. And then I formed my own consulting company,
14 as I said, we've been in business for 27 years.

15 **Q. Thank you.**

16 **Have you served as an expert witness in cases on**
17 **hazardous material accidents, emergency planning and**
18 **response in the past?**

19 A. Yes, sir, I have. I've testified before the
20 United States Congress on bulk storage tank safety and
21 fire issues, and I've served as an expert on at least
22 18 cases, many of which involved emergency responder
23 fatalities.

24 **Q. Have you authored or co-authored publications on**
25 **hazardous material emergency preparedness, planning and**

1 **response?**

2 A. Yes. I co-authored numerous textbooks. Our
3 flagship textbook is called "Hazardous Materials:
4 Managing the Incident" -- (Court Reporter interruption.)
5 "Hazardous Materials: Managing the Incident," and that
6 book has been in circulation for 27 years. It's now in
7 its fourth edition and there are over 100,000 copies in
8 circulation to fire and police departments. It's widely
9 used in training programs.

10 I'm also the co-author of the textbook "Propane
11 Emergencies." We have another textbook called "Pipeline
12 Emergencies." We just released the second edition of
13 "Gasoline Tank Truck Emergencies," and I have two others
14 that I hope to get to this summer to revise, one on
15 storage tank emergencies and one on intermodal container
16 emergencies.

17 **Q. Have you earned any professional certifications**
18 **relating to hazardous materials and emergency response?**

19 A. Yes, sir. I have the certification of certified
20 safety professional, which in many circles seem to be
21 equivalent to the PE. I hold the certificate certified
22 hazardous materials manager at the senior level, and I'm
23 a certified fire protection specialist.

24 **Q. And what organizations are you a member of that**
25 **has this material emergency planning and response?**

1 A. I've served on the National Fire Protection
2 Association committee, NFPA 472, which is professional
3 competencies for responders to hazardous materials,
4 emergencies and weapons of mass destruction. And I've
5 served on that committee as an alternate for 19 years.
6 My business partner is the chairman at that committee,
7 so I'm his alternate.

8 **Q. Have you reviewed your prefiled testimony that**
9 **was filed in this proceeding?**

10 A. Yes, I did.

11 **Q. Do you affirm that that testimony is true and**
12 **correct?**

13 A. That's correct.

14 **Q. Can you just give us a little bit more of a**
15 **description of your training and experience with regard**
16 **to emergency planning and response specifically related**
17 **to the transportation of crude oil by rail?**

18 A. Well, my business partner and I have been
19 involved in this tank train issue for a couple of years.
20 In August of 2015, we convened a special group where we
21 invited -- this was in Chicago -- we invited by
22 invitation only what we thought were the best people in
23 the country that had the experience on these tank
24 trains, and this included the railroad as well as
25 responders. And the purpose of that meeting was to try

1 to identify what we knew was a fact, what we thought
2 maybe was a myth, and more importantly, what we didn't
3 know.

4 And when my partner, Greg Noll, went around the
5 room and asked how many derailments were in the room,
6 when we added that was up it was 60, so we had people in
7 the room that had experience with 60 derailments, not
8 all tank train derailments. And from that, we began to
9 develop facts which turned into a white paper and then
10 that white paper eventually got circulated to other
11 agencies and has now been published by the National Fire
12 Protection Association. In fact, coincidentally, I just
13 received it yesterday, so we're pleased that that is
14 out.

15 **Q. When you say you received it, what do you mean?**

16 A. Well, the copy that is now going to press, we
17 received it from the National Fire Protection
18 Association Foundation, and that project was funded by
19 PHMSA.

20 We've also taken the work that we've done and
21 put it into various training programs at the
22 International Association of Fire Chiefs, and the PHMSA
23 funded what's called TRIPR, T-I-R-P-P-R [sic]. It's a
24 transportation and response training program but
25 actually is offered in Hanford, Washington, on tank

1 trains.

2 **Q. Did you play a role in the emergency response to**
3 **the derailment and fire that occurred in Mosier in June**
4 **of this year?**

5 A. Yes, sir, I did. I responded as part of an
6 overhead incident management team. IMTs are specialized
7 teams across the country. They're rated into Type 1,
8 Type 2 and Type 3 teams. Type 1 has the highest
9 capability, and this team was dispatched and requested
10 by Union Pacific Resources, so in essence we were
11 working for UPR.

12 So the objective of the IMT was to go in and
13 relieve the emergency responders on the ground from
14 their duties. They had already worked about 26 hours
15 non-stop. And I heard Chief Mosier testify yesterday --

16 **Q. Chief Appleton?**

17 A. Sorry -- Chief Appleton from Mosier testify
18 yesterday, and if you listened to what he had to say,
19 you can see that they were pretty busy in the first 24
20 hours.

21 So the purpose of the IMT is to get the incident
22 out of the emergency mode and into the project mode, and
23 by doing that, we bring in a team of unified commander
24 planning section chief, a logistics section chief, a
25 finance section chief and a logistics section chief and

1 staff. And when we fill out the IMT with all positions,
2 we had about 50 people there, and I stayed there for
3 seven days and we ran operations 24/7 for six days.

4 **Q. And what was your role on the IMT?**

5 A. Initially I was assigned -- typically I would be
6 the safety officer because of my background, but safety
7 wasn't broken. It was actually running pretty well --
8 (Court Reporter interruption.) Safety was not broken;
9 in other words, it was working very well. So I didn't
10 think I could add any value to that position, but
11 logistics had lots of issues. So I was in logistics.

12 **Q. And you said that, I think when you arrived**
13 **there was transitioning from the emergency mode to the**
14 **project mode. Could you describe a little bit more what**
15 **you mean by that?**

16 A. Well, in the emergency mode, you're still
17 dealing with fire, rescue, saving life, protecting
18 property. And the fire had been extinguished I think
19 around 2:00 a.m. I got the dispatch call at 4:30 on
20 Friday, and our team was on the ground at 2:00 p.m. on
21 Saturday.

22 So by that time you can imagine everyone was
23 very exhausted dealing with the stress and 26 hours of
24 continuous operation with no sleep. So it was really at
25 the point where now we needed to settle down and focus

1 on what we needed to do to render this site safe.

2 There were still many, many hazards present, but
3 the public was not at risk. The people that would be at
4 risk were the more than 200 workers that we had onsite
5 trying to clear the wreckage, pump out the crude oil out
6 of the tanks, and that's very dangerous work.

7 **Q. Yeah. It's easy to think of once the fire is**
8 **extinguished the response is over, but that's not the**
9 **case, is it?**

10 A. No. We didn't really have all the hazards
11 mitigated until maybe Wednesday.

12 **Q. Okay. Could you just describe for us in general**
13 **terms the response post-fire extinguishment. What did**
14 **you have to do in Mosier?**

15 A. Well, the first thing that the team had to do
16 was to get access to the site, which means they have to
17 build a road and be able to get the heavy equipment in
18 there. And then you have to do a damage survey to
19 determine which cars are actually safe to pick up and
20 move to get off the track because the cars have to get
21 moved to a point that they can be offloaded. And some
22 cars can be re-righted on the rail, some cars are
23 undamaged to the point that they can be offloaded, some
24 cars are damaged to the point that, you know, they need
25 to be rendered safe in some way.

1 And then you have some cars that are breached
2 that have been extinguished that still have product. So
3 those typically are the first cars to be dealt with, and
4 then you systematically work your way back to the safest
5 cars.

6 Then you move the cars off the rail track to the
7 side, and then you begin the process of restoring the
8 rail track. Then you remove -- after all the liquid has
9 been removed, you remove the cars from the site, clear
10 up all the wreckage, restore commerce on the rail line.

11 And then you enter the next phase of the
12 incident, which is restoring the site, and usually
13 that's the point where the IMT goes home.

14 **Q. And that much of the response took how many days**
15 **or from beginning to end, how long was the response in**
16 **Mosier?**

17 A. Well, emergency response ran something like 26,
18 27 hours that Chief Appleton described yesterday. The
19 IMT wreck clearing and recovery operation lasted about
20 six days. And how many days the recovery/restoration
21 lasted, I don't know. But I asked the chief yesterday
22 and he said they're still doing all of the pollutants
23 have been removed and now they're doing landscaping and
24 things like that.

25 **Q. You were present yesterday when Chief Appleton**

1 **testified?**

2 A. Yes, I was.

3 **Q. Was his description of the incident and the**
4 **response accurate?**

5 A. Based on what I saw, I thought it was very
6 accurate. I thought it was a pretty good presentation.

7 **Q. Do you have any comment or anything to add to**
8 **it?**

9 A. Well, in a lot of these incidents that are on
10 this scale, it's kind of like the, you only get to see
11 part of the elephant that you're touching, so sometimes
12 you don't really have a full picture of what really took
13 place until you get to the after action report, which is
14 a review of who did what and the lessons learned. I
15 learned a couple things yesterday that I didn't know.

16 **Q. Okay. Was there -- have you reviewed the after**
17 **action report?**

18 A. No. I know the after action conference was held
19 about two weeks ago. I don't think they've written a
20 report yet.

21 **Q. And you said you learned a couple things that**
22 **you didn't know. What was that?**

23 A. Well, when our IMT landed, first of all, it was
24 about 95 degrees on Tuesday, the heat index was 105,
25 water was a big issue for us. When we set up our

1 command post in a high school gym -- or a middle school
2 gym that was built in 1924, it had no air conditioning,
3 so we were trying to manage this incident with this type
4 of heat and temperature.

5 We had no sewage because the derailment took the
6 sewage plant out. So running water was an issue and
7 problem for us. I thought the aquifer had been depleted
8 during the firefighting operation, but what I learned
9 yesterday, that's not true. But at least from where we
10 sat, water was an issue.

11 For example, being in logistics I can tell you
12 how much water we consumed. On Tuesday, when it was 98,
13 we consumed 1,265 bottles of water in 12 hours. That's
14 a lot of water.

15 **Q. Okay. In your -- anything else on the Mosier**
16 **incident?**

17 A. No, sir.

18 **Q. Okay. In your prefiled testimony on Page 18 to**
19 **21, you presented two credible worst-case scenarios.**
20 **And my first question on those is, why are credible**
21 **worst-case scenarios developed?**

22 A. Well, in the fire service or in emergency
23 management we would develop worst-case scenarios because
24 we're already or we should be pretty good at high
25 probability/low consequence event. What we're probably

1 not good at is what our worst day is going to look like
2 which would be a low probability/high consequence.

3 **Q. Can you give an example of high probability/low**
4 **consequence event?**

5 A. Well, yeah. Fire in a nuclear plant. That's
6 going to be a really bad day.

7 **Q. I was asking you high probability/low**
8 **consequence.**

9 A. Sorry.

10 **Q. Hopefully it's not a nuclear powerplant fire.**

11 A. Well, you know, firefighters deal with burning
12 homes, structural fires, overturned vehicles,
13 extrication, fuel spills and things like that. That's
14 kind of bread and butter, that's every day. If we can't
15 do that, we shouldn't be firefighters.

16 **Q. And then the low probability/high consequence?**

17 A. Well, nuclear plant, plane crashes, train
18 derailments, bulk storage tank terminal fires. These
19 are things that some people don't see in their entire
20 career, some of us see more than. Because if you work
21 in HAZMAT, you're going to see more of that kind of
22 stuff.

23 **Q. Is it more or less I guess I'd say difficult to**
24 **maintain a state of preparedness to respond to a low**
25 **probability/high consequence event?**

1 A. Well, yeah, because they don't happen that
2 often, fortunately. So we plan, train and exercise.
3 Exercise is about as good as you can get, and you
4 typically would start off with a tabletop exercise and
5 then move on to a functional exercise. And then every
6 so many years you would do a full-scale exercise. For
7 some types of facilities like nuclear facilities, or oil
8 spills, how frequently you do those is regulated by law.

9 **Q. So going by to your credible worst-case**
10 **scenarios, you developed two. Can you tell us what you**
11 **did to develop those scenarios?**

12 A. Well, specifically, the fire and emergency
13 management in Vancouver asked me to develop some
14 scenarios based on what we've seen in past accidents in
15 terms of the ones that we studied. And take a look at
16 the locations in the city where what you would end up --
17 having maybe a bad day.

18 **Q. Did you do a site visit to Vancouver?**

19 A. I did.

20 **Q. Who was with you?**

21 A. Mr. Robert Chipkevich was with me. He testified
22 yesterday. His expertise is in rail safety, track
23 safety and so forth. So we double-teamed on this.

24 Where we could legally walk, like at-grade
25 crossings and any place the public had access to, we

1 examined track. We drove or walked pretty much the
2 entire route from the time it comes into the city until
3 the time it gets to exits.

4 **Q. Okay. And did Mr. Chipkevich work with you in**
5 **developing the scenarios?**

6 A. Yeah. We went to the locations and discussed,
7 you know, how it can happen, what it might look like.

8 **Q. One of those scenarios, and they're set out in**
9 **the testimony on Pages 18 to 21, but one occurred in an**
10 **area near Marine Park. Can you describe for us that**
11 **incident?**

12 A. Yes. The Marine Park incident is located east
13 of I-5 near State Road 14, and the rail track separate
14 is between the river -- there's the river, the Marine
15 Park, a state-of-the-art sewage treatment facility, a
16 rail track. And then uphill is a brushy area with wood
17 structures at the top and a road. And so while we
18 thought that that would be not a very good location for
19 derailment, especially if it happened at a time when the
20 park would be occupied, because Marine Park has limited
21 vehicle access, any derailment for a train that would be
22 a mile long would block off many access points. And of
23 course, any fire that was involved with the railcar
24 might actually run up the hill.

25 **Q. In the Marine Park area, that's not one of the**

1 **areas that only has one point of access, is it?**

2 A. As I recall, there are a couple access points
3 there, but the train would be blocking a lot of access
4 points for the homes along there. What I found kind of
5 spooky when I went to Mosier, is the Mosier derailment
6 is exactly the scenario.

7 **Q. How do you mean? Because I think there's some**
8 **criticism, they say it's not being very probable. So**
9 **how would it compare to Mosier?**

10 A. Well, I was at Mosier and I saw with my own eyes
11 it happened. In this scenario that we described in
12 Vancouver for the responders to plan and think about
13 what would be a bad day, the train derailed next to a
14 sewage treatment facility. In Mosier, the train
15 derailed next to a sewage treatment facility and took it
16 out.

17 In this scenario, the train cut off Marine Park.
18 In Mosier, the train cut off the wind sail at Marine
19 Park. Fortunately, it happened at 4:30 on Friday.
20 Normally on the weekend that beach would be packed with
21 people and they would be cut off with limited access.
22 Maybe they would have to swim out of there.

23 And in this scenario that I described in
24 Vancouver, there's a hillside next to it with brush that
25 I said could catch on fire. In Mosier, there was a

1 hillside with brush and it caught on fire and ran up the
2 hill. Fortunately, the density of the brush was low.

3 In the Vancouver scenario, there were wooden
4 homes at the top of the hill. In Mosier, there were
5 wooden homes at the top of the hill.

6 So I'm finding it real hard to say that this
7 couldn't happen when it just happened right here in
8 Oregon.

9 **Q. There is a second incident that's described in**
10 **your testimony, and that one is located closer to**
11 **downtown. Can you just describe the scenario that you**
12 **developed there?**

13 A. Yeah. We picked that area because it's an area
14 that is going to be developed with an additional
15 1,125 dwellings that are going to be placed what is now
16 a vacant lot, so it's going to become a high population
17 density area. And that area will be between the river
18 and the train track.

19 And then city hall is about 400 feet from this
20 location. It's an elevated bridge, it's a new bridge,
21 it's new infrastructure there. And underneath of it,
22 there's a low lying area where all the drainage to move
23 the water drainage drains to the river.

24 So if there were any spill there, unless the
25 fire department was able to cut it off and keep it out

1 of the drainage system, it would make its way to the
2 river. If it were on fire on its way to the river, it
3 could catch other locations on fire.

4 So the derailment that we picked here would be
5 at 3:35 p.m., 7 cars from a 100-car train derailling at
6 10 miles per hour. As Mr. Chipkevich pointed out
7 yesterday, there have been derailments with breaches at
8 speeds of ten miles per hour.

9 Three of the seven cars derailed, fall off the
10 overpass on to Phil Arnold Avenue, and each of these are
11 carrying, of course, 30,000 gallons of crude. And these
12 cars breach, catch on fire, cause other cars to breach,
13 and the burning liquid enters the storm system.

14 So in terms of a firefighter or an emergency
15 management person trying to plan for water supply, spill
16 control, foam concentrate, evacuation, alerting and
17 notification, all the things that you have to do to deal
18 with a problem like this, we felt it was a good scenario
19 because it was challenging.

20 **Q. There's been testimony, again, that such a**
21 **scenario is highly unlikely because of the low speed of**
22 **the train and the presence of a guardrail. Can you**
23 **comment on that?**

24 A. Well, the guardrail is a good thing. What the
25 guardrail does is add extra safety. I think someone

1 testified that the details of it, what guardrails do,
2 earlier. So, yeah, that's good that that's in place on
3 the bridge, because it's not safe and we didn't have
4 approval from the railroad to climb up onto the track.
5 I don't know whether there are guardrails in place
6 there, but I assume that they are.

7 Nevertheless, you can have a derailment that
8 occurs before or after the bridge where the guardrails
9 are in place and the cars can still leave the track. I
10 think what the chief said yesterday is from the point of
11 the breakage on the track to the point where the train
12 actually stopped moving and caught on fire was 800 feet.
13 So imagine a train that derails before the bridge or
14 after the bridge where these safety devices are in
15 place, you could still have the scenario, in my opinion.

16 **Q. I'd like to move to Exhibit 3008, which was an**
17 **attachment to your prefiled testimony, and it has**
18 **several pictures. This has been admitted into the**
19 **record. Some of these pictures are of damaged tank cars**
20 **and other pictures are of fires. And while it's coming**
21 **up, I'll just ask you a couple questions about it.**

22 **First of all, did you compare or compile this**
23 **exhibit?**

24 **A. Yes, I did. They're based on evidence photos**
25 **taken by the National Transportation Safety Board.**

1 Q. Okay. And with respect to the damage to the
2 tank cars, are you familiar with the type of damage that
3 can be caused by a derailment?

4 A. Yes.

5 Q. Okay. Just waiting. What I'm going to ask you
6 to do, if you can --

7 A. I have in front of me a hard copy.

8 Q. Okay. Great. Just, we'll get it up on the
9 screen, and go through and just tell us what the
10 different pictures are showing us.

11 A. Proceed?

12 Q. Well, it's not up on the screen. Oh, it is
13 there? This one is. You can't really -- is council's
14 visible?

15 Why don't you go ahead and proceed,
16 Mr. Hildebrand, and tell us what are you showing here on
17 the first photograph?

18 A. Okay. For the folks that can't see --

19 Q. It's coming up now.

20 A. Okay. This is a railcar that has been
21 punctured, you can see the yellow circled area.
22 Punctures can happen -- you know, if you picked up an
23 ink pen and jammed it into a soda can, it's a puncture.

24 This is just a big, tougher soda can going down
25 the track. And you can see that even though they're

1 well built, they can be punctured from striking an
2 object. That can be a coupler that separates.

3 So if you look at my hand, imagine you're a toy
4 train. The two couplers are like this and when the
5 energy pushes forward, the coupler comes up and over and
6 moves forward from the car behind it and punches a hole
7 into the tank.

8 **Q. Did that occur in Mosier?**

9 A. They had a tear in Mosier.

10 **Q. Okay.**

11 A. And what caused that tear, I don't know.

12 **Q. Okay. Go ahead. Sorry.**

13 A. There were four cars that were damaged. One was
14 damaged by a tear, two were damaged from loading --
15 bottom loading outlets. And the other was a melted
16 gasket on a dome.

17 **Q. A dome, is that also called a manway?**

18 A. Yeah, the manway. The dome cover. We're going
19 to see a picture of one shortly.

20 **Q. Okay. Go ahead with your description then.**

21 A. Punctures can come from other sources like a
22 rail flips up and pokes through.

23 **Q. Are you ready for the next picture?**

24 A. Yes. What we see here is a top fitting damage.
25 Of course they have fittings on the top and on the

1 bottom, so these fittings can be damaged by just
2 scraping on the ground, by colliding with another car or
3 they can also be damaged by fire.

4 **Q. Next picture.**

5 A. Go on to the next one?

6 **Q. Sure.**

7 A. This one, there should be a picture of a bottom
8 fitting but maybe it will come up next. This is a
9 manway, so what you're seeing here is normally this
10 would be standing pointing vertically towards the sky
11 when it's going down the track, and now the car is
12 overturned.

13 And you can see the hinges and the unfastened
14 swing bolts, these actually swing up over the top and
15 then they're tightened down. And just like tightened
16 lug bolts on a car, you tighten them alternate, not
17 clockwise or counterclockwise so you get a good seal and
18 there's a seal under that to help keep that closed. If
19 these are not properly tightened down or if they roll
20 over and strike something, they can be ripped off and
21 the product is free to leak out.

22 JUDGE NOBLE: Let me just say the bottom
23 fitting picture is before this one. If we could just
24 scroll back to that.

25 THE WITNESS: There you go. So this is on

1 the bottom of the tank and that's the bottom fitting.

2 In Mosier we saw two cars with this type of damage.

3 BY MR. POTTER:

4 **Q. And what's the likely mechanics that caused that**
5 **kind of damage?**

6 A. Same as top fittings striking an object,
7 grating, grinding along the ground. Remember that these
8 tanks are sitting on top of trucks so sets of rail cars
9 up in the front and the rear.

10 **Q. By trucks you don't mean vehicles. What are**
11 **trucks?**

12 A. They are vehicles in kind of a way. We've all
13 seen railcars. When you see the wheels on the bottom,
14 those are not necessarily permanently attached. The car
15 is sitting on top of this, and when the car overturns, a
16 lot of times they fall off and go someplace else and
17 then the tank can roll or it can just drag along the
18 ground.

19 **Q. Okay. Are you ready for the next picture?**

20 A. Yes.

21 **Q. We've done this one. You were done with the**
22 **manway description, weren't you?**

23 A. Yes.

24 **Q. Anything else? There we go.**

25 A. This is thermal damage. This is a rip in the

1 side of the container. Some people call it a
2 heat-induced tear. Just to give you a little bit of
3 background and explanation on this, in the tank car,
4 there's liquid space and vapor space. If you have a
5 breach in the container and you have liquid burning off,
6 you can have eventually more vapor space than liquid.

7 You might have seen this done in a school
8 chemistry class or something. Would you believe that I
9 could -- pretend this is Styrofoam. Would you believe
10 that I could boil water in a Styrofoam cup?

11 You can, because the water is a heat sink, and
12 while this will get ugly, brown and crusty, the water is
13 going to boil because I have the torch in the liquid
14 space. It's taking the BTUs from the torch, absorbing
15 them into the liquid and eventually it's going to boil.

16 But as that boils off, what do I have on top?
17 We have just the vapor space. If I move that torch up
18 into the area that doesn't have the water in contact
19 with it, it's going to fail fairly quickly. So the more
20 vapor space that you have exposed when there's flame
21 impingement, steel begins to relax at around 18-,
22 1900 degrees Fahrenheit. It melts at 2,500 degrees --
23 (Court Reporter interruption.) Steel begins to get
24 relaxed, get like plastic, at between 1,800 Fahrenheit
25 and 1,900 Fahrenheit, and I think the official melting

1 point is 2,500.

2 So what's happening here is you have vapor space
3 on the inside and then you have flame impingement on the
4 steel on the outside, and there's nothing left to cool
5 it off on the inside. So that steel starts to get mushy
6 and flexible, and it can just rip apart.

7 So when that happens, you now have exposure to a
8 lot more product and the fire grows in intensity.
9 Typically, what we've seen in these tears go down the
10 length of the tank car as opposed to around it.

11 **Q. Okay. Next picture, please.**

12 A. So what we're seeing here is another type of
13 failure involving energetic ruptures. And of the 25
14 incidents that we've looked at, this has only occurred
15 twice, one at Arcadia, Ohio, and one at Plevna, Montana,
16 and they've involved ethanol.

17 So to date we haven't seen this type of failure
18 on a crude train. I don't know why. I just don't have
19 the answer to that.

20 **Q. So describe what happens in an energetic**
21 **rupture.**

22 A. Well, in an energetic rupture, the car comes
23 apart and in usually two pieces. And some people call
24 this a BLEVE and it's not a BLEVE. A BLEVE -- it's
25 B-L -- it's boiling liquid expanding vapor explosion.

1 That's a phenomenon that we saw in the early '70s
2 involving liquefied petroleum gas cars, LPG cars.

3 The same thing I just described with my little
4 example of the section thinning and so forth would take
5 place with LPG, except here you're dealing with a
6 liquefied gas that rapidly expands when the container
7 fails, and when that happens it comes apart in many
8 different pieces. You can have fragmentation of up to
9 1,500 feet or further.

10 You just don't see that phenomenon because crude
11 oil is not LPG. What we have seen with these ethanol
12 cars is when they fail around the circumference of the
13 car, they come apart in two pieces. And as you can see
14 from this photo, with the two yellow circled areas
15 there, they don't travel really great distances. So
16 that's good for the community and good for the
17 firefighters. But nevertheless, if you happen to be in
18 that footprint when that releases, your life's in
19 danger.

20 **Q. All right. Are you ready to scroll down to the**
21 **next picture?**

22 A. Yes. This photo and some subsequent photos are
23 examples of a dynamic energy release, in plain language,
24 fireball. Yesterday you heard Chief Appleton look and
25 comment on the video and said it was a fireball. That's

1 okay, but it wasn't really an energetic -- a dynamic
2 energy release like we're seeing in these photos.

3 What's happening there is these cars are coming
4 apart quickly. The previous picture I showed you with
5 car coming apart, this is what the result is in this
6 photo.

7 So a typical fireball would be 650 feet in
8 diameter. The fireball intensity might last 20 seconds.
9 So to put that in perspective, if you do the math,
10 3 feet in a yard, divide that into 650, it's 211 yards,
11 two football fields. So that's pretty impressive, but
12 not even in the same ballpark as a BLEVE situation with
13 an LPG car. Bad, but not as bad as you would see in
14 other types of products.

15 And this photo is from the Arcadia, Ohio ethanol
16 incident. So could we move on to the next one? I think
17 there's two more examples.

18 This is the same phenomenon. I said there were
19 two. This one is another example. And then there's a
20 third.

21 **Q. Just for the record, the one that you are**
22 **referring to now is designated as Figure 8 of your**
23 **exhibit. And then the next one is Figure 9.**

24 A. Yeah. So I included those just to give you some
25 kind of visual reference. So just to sum up there, you

1 saw different types of failures, puncture, heat-induced
2 tear, and energetic release damage to fittings. And the
3 last one.

4 So every derailment doesn't necessarily produce
5 every one of these. Every derailment is slightly
6 different. But when you look at the types of potential
7 failures, that sums it up.

8 Q. We've had testimony about the emergency response
9 guide and Part 128 of that on the size of the evacuation
10 area in the event of a fire involving crude oil tank
11 cars. You're familiar with that guidance?

12 A. Guide 128, that's for crude oil.

13 Q. Yeah.

14 A. There's different grades and types of crude, but
15 128 would apply to Bakken crude.

16 Q. In the pictures -- in your description of the
17 fireball saying it can be two football fields or 210
18 yards diameter, is that the dimension that we're talking
19 about?

20 A. Yeah, 650 feet in diameter.

21 Q. There was testimony about positioning
22 firefighting apparatus to put cooling water on tank cars
23 during one of these events.

24 How close does that apparatus have to be placed
25 to the tank cars?

1 A. Well, to be effective, to get 80 percent of the
2 water where you need it, most master streams need to be
3 about 150 feet. You know, for the average fire -- piece
4 of fire apparatus pumper out there. If you go into the
5 industrial world where flowing 12,000 gallons a minute
6 is just a regular thing, you have greater reach. But
7 most fire departments, a standard master stream,
8 150 feet. You know, maybe you can push it to 200. It
9 depends on what your pumping capacity is.

10 So the further away you go, just like your
11 garden hose at home, the further you go away from your
12 objective the less water you get on target.

13 **Q. So that 150 feet would put you within the**
14 **diameter of the radius of the fireball?**

15 A. Yes. And it was summed up by Chief Appleton
16 yesterday when he talked about -- kind of dramatically
17 talked about the guys that moved those nozzle trailers
18 in close so they could get cooling water. They kept
19 that fire from spreading.

20 There were four cars on fire. There could have
21 been many more on fire, in my opinion because of flame
22 impingement. And what they were able to do is get the
23 cooling water on the steel.

24 Remember what I said about steel relaxing at
25 1800 degrees. If you could keep that -- you only have

1 to keep the steel temperature below its failing point.
2 It could be extremely hot, but it's not at the point
3 where the steel is relaxing and reaching its failure
4 point. So what they did was they used water sparingly
5 and also used remote nozzles.

6 But anyhow, the point I was going to make is
7 that he summed it up by saying they were two very bright
8 men.

9 **Q. The operation to cool the cars can last how**
10 **long?**

11 A. Well, quite some time. What the chief said
12 yesterday is I think they started their cooling
13 operation about four hours after the derailment, and it
14 continued on for another eight hours.

15 **Q. And over what period of time in derailments have**
16 **fireballs occurred?**

17 A. Well, looking at the data from now 25 incidents,
18 they can occur as early as 20 minutes into the incident
19 or they can occur 8 or even as late as 10 hours.

20 **Q. What challenges does that pose to emergency**
21 **responders trying to deal with one of these situations?**

22 A. First of all, on the front side is evacuation,
23 because early on you don't know what you don't know. As
24 the chief said yesterday, it took them almost one hour
25 just to figure out what it is that was wrong, what was

1 going on. And then it took them another three hours --
2 once they developed an action plan, it took them another
3 three hours to implement it. So evacuation is important
4 on the front side.

5 Establishing a water supply, even if your
6 objective is not to try to attack and extinguish the
7 fire, using offensive tactics, you would want cooling
8 water available to do exactly what they did in Mosier.
9 And that cooling water has to be sustainable over hours.
10 I think he said they used 35 tankers to shuttle one
11 million gallons of water.

12 **Q. And during that operation, do you have to**
13 **reposition that apparatus that's being used to place the**
14 **cooling water on the cars?**

15 A. Well, in any fire where you have master streams
16 involved, you are always making adjustments because the
17 size of the fire can grow in intensity and also can
18 reduce in size and then you can redeploy those master
19 streams to an area where they're going to be more
20 effective. Because water is like gold in a situation
21 like this, you don't want to waste it.

22 **Q. So in doing that repositioning, are people**
23 **having to then reenter the area where the fireball could**
24 **occur?**

25 A. Unless you're lucky enough to have remotely

1 controlled nozzles, yeah.

2 **Q. Do most fire departments have those?**

3 A. Only in -- most small departments, no.

4 **Q. Does an oil fire or oil train fire and a**
5 **response to it have phases?**

6 A. Yes.

7 **Q. Okay. In your prefiled testimony on Pages 15 to**
8 **17, you describe the different phases of the incident**
9 **and the response, and you prepared a diagram called a**
10 **Problem Versus Response Time, that's Exhibit 3123.**

11 **Can you briefly describe just what this diagram**
12 **depicts?**

13 A. Do you want to put the diagram up?

14 **Q. Well, I think there may have been an outstanding**
15 **objection to them by the Port on this.**

16 MR. POTTER: Has it been withdrawn? Okay.
17 Yes, there's no objection and we can bring it up on the
18 screen. Thank you.

19 JUDGE NOBLE: Just a minute so that I can
20 make sure it gets into the record.

21 MR. KISIELIUS: It's already admitted.

22 JUDGE NOBLE: Is it admitted already?

23 BY MR. POTTER:

24 **Q. Mr. Hildebrand, before we get too deep in the**
25 **description of this, I want you to explain what was done**

1 **to develop this diagram.**

2 A. Well, earlier I talked about the group that we
3 got together in Chicago in 2015. And through the
4 efforts of the team, this was developed based on actual
5 experience from the field, from a variety of different
6 players, both rail responders, rail HAZMAT experts as
7 well as some of the guys in the room that were invited
8 actually had been incident commanders on one of these
9 tank train incidents.

10 And so from that, this was put together as a --
11 mainly as a teaching tool and a tool for like what we're
12 having here today, a discussion.

13 **Q. Has it been incorporated into any publication?**

14 A. Yes. It's been incorporated into the
15 PHMSA-funded project where we developed tactical
16 guidance for incident commanders. My partner Greg Noll
17 and I wrote this paper for the National Fire Protection
18 Association Research Foundation.

19 **Q. What is the National Fire Protection**
20 **Association?**

21 A. The NFPA, the National Fire Protection
22 Association, has been around since the 1800s. It's the
23 premiere standards-developing organization in the world
24 for fire protection standards. For example, I served on
25 the NFPA 30 flammable and combustible liquids committee

1 for nine years. That code is a standard, and it's
2 adopted by states.

3 Many states adopt NFPA standards and then they
4 become law. The life safety codes for these exits in
5 this room that we're in, they're developed by the life
6 safety code committee under the NFPA and there are
7 hundreds of others to help keep people safe.

8 **Q. So is there a title to the publication that you**
9 **and Mr. Noll developed?**

10 A. I think it's called High-Hazard Flammable Train
11 Guidance, Tactical Guidance for Incident Commanders.

12 **Q. All right. And is it published under the -- I**
13 **don't know what --**

14 A. It's published by the NFPA's research arm is the
15 NFPA Research Foundation, and the project was funded by
16 the federal government, PHMSA, and it was published by
17 NFPA. It actually just went to the printers yesterday.

18 This same graph appears in the TRIPR training
19 program as a PHMSA-funded program. We just in June
20 presented a paper on this topic to the International
21 Association of Fire Chiefs HAZMAT response teams
22 conference in Baltimore where we had 300 people attend
23 the presentation from both rail and fire, and it got a
24 good reception. So we're not seeing any pushback from
25 the rail or the fire community on this.

1 **Q. Okay. Then if you would, just take us through**
2 **the diagram and explain what it's depicting.**

3 A. Okay. Well -- may I stand up?

4 JUDGE NOBLE: Of course.

5 THE WITNESS: I feel better anyhow. So what
6 you're seeing on this graph is first of all, right down
7 through the middle is a time from T-0 all the way out
8 through sometime in the future. So you see marks of two
9 hours, four, six, eight, and further out. And you can
10 see that there's a curve that runs across the top that
11 starts out and zero runs through Hour 2 through 6 and
12 then continues out through 8.

13 So in the first hour, in the first one to
14 two hours, that's Phase 1. This is where you have a
15 growth in the fire. I think the video that you saw from
16 Mosier the other day, high intensity fire, it's a very
17 angry fire, three-dimensional, two-dimensional fires. A
18 two-dimensional fire is a fire that is on one plane and
19 has verticality, a camp fire burning.

20 A three-dimensional fire is vertical, but it
21 also has two horizontal planes. Think like the top of a
22 tank car, the bottom of the tank car would pull fire,
23 fire coming out all different directions. So this is a
24 hot fire in the growth stage.

25 Then as the fire continues, you have

1 pressure relief devices or pressure relief valves that
2 activate. Why that's happening is the tank car is
3 equipped with valves that can release pressure like a
4 pressure cooker in your kitchen. And as it reaches a
5 preset level, it burps and opens up and allows that to
6 vent.

7 In the early phase of the fire, the valve
8 can open and then it can reset and recycle. What they
9 were able to do in Mosier is actually get those cooling
10 nozzles, the cooling water on those tanks so that they
11 could cool that upper shell. And what happened? The
12 relief valve would reset.

13 If they hadn't done that the relief valve
14 would have continued to exceed pressure and that, of
15 course, is burning and that becomes a three-dimensional
16 angry fire and then that radiant heat continues to
17 exposure on the other railcars.

18 So at this point in the incident you have
19 thermal stress that's taking place on all of the vapor
20 space and the non-vapor space on all of the other cars
21 that are within its -- you know, that it can reach out
22 to.

23 And then we get into the phase where we can
24 have failures, heat-induced tears. Remember I talked
25 about how the steel can start to relax and get like

1 putty and can open up. Remember the pictures we saw
2 with the slits in the side of the container.

3 And then when that happens, the fire grows
4 in intensity and now you have more direct flame
5 impingement and you also have radiant heat, which
6 increases the intensity. So eventually like any fire,
7 it starts subsiding.

8 Why? Because it's consuming the fuel. And
9 so now we're reaching the next phase, which is when we
10 get into equilibrium.

11 And the equilibrium mode, how do we know
12 we're there? Well, the fire is not getting bigger, the
13 pressure relief valves are no longer popping on and off,
14 and they're no longer flowing continuously, and they're
15 starting to go into downside. And this is the point
16 where you now have an opportunity to extinguish the
17 fire.

18 So let's look at the bottom part of the
19 chart. You see offensive strategy, defensive,
20 non-intervention, and then assessment to offensive
21 strategy. In the front side of the incident in Phase 1,
22 there are opportunities for us to attack and extinguish
23 the fire. However, to date, in the 25 incidents that
24 have occurred both ethanol and crude trains, of those
25 24 incidents, 20 actually resulted in a fire and of

1 those 20, no fire department has been able to extinguish
2 the fire in Phase 1. Not one.

3 So I'm not saying it won't happen in the
4 future, but the last 10 years of those 20 incidents that
5 had fire, no one has been able to do it because the
6 resource requirements are great. And the fire is
7 growing in intensity.

8 Now, is that one hour or is it two hours?
9 You know, this is representative of what has actually
10 happened and so that window of opportunity might extend
11 beyond an hour, but I think you get the general idea
12 that in Phase 1, you're in the growth stage and it
13 hasn't reached that Phase 2 stage and there are
14 opportunities to attack and extinguish the fire.

15 Once you get past that opportunity and you
16 get into Phase 2, the window closes. And so now we have
17 to switch tactics to either a defensive or a
18 non-intervention strategy, and in Mosier they did both.

19 They used defensive techniques by getting
20 their water on tanks that were being exposed so that
21 could be cooled and they also used a non-intervention
22 strategy where they realized it's too risky for us to --
23 what if one of these tanks opens up like you saw in the
24 photos?

25 It's too risky for us to expose people and

1 send crews in there to try to attack and extinguish it.
2 Let's wait until the fuel burns down and it reaches
3 equilibrium.

4 And then, and the third phase, now the
5 window opens up again and you now have the opportunity
6 to go back in and try extinguishment. The experience
7 that we've heard from the railroads that have worked
8 these incidents is that when you get to that back phase,
9 you can actually extinguish the remaining fires with
10 just one toad. You know what a toad is? A couple of
11 55-gallon drums, big square container.

12 And what you heard Chief Appleton say is
13 that once it reached equilibrium, they were able to go
14 in and extinguish it with two five-gallon pails of foam.
15 And of course, that's foam concentrate, depending on
16 what your application rate is 1, 2 or 6 percent, you
17 would mix 1 percent of that with 98 percent of water to
18 make foam solution. So there's actually more foam in
19 those 5-gallon pails than you might think. It's foam
20 concentrate. It's kind of like concentrated soap.
21 You're not going to clean your house with concentrated
22 soap; you're going to dilute it. And that's what we're
23 doing here with that. So those are the three phases.

24 There is a lot that can be done in that
25 second phase in terms of spill control. There are spill

1 control priorities, to contain it and confine it to
2 where it currently is. Keep it out on the water and if
3 it gets in the water, protect river downstream, intakes
4 and sensitive areas.

5 BY MR. POTTER:

6 Q. Yesterday -- well, when Mr. Rhoads testified, he
7 commented that you used as a yardstick for a measure of
8 success the ability to offensively attack the fire in
9 the first phase.

10 Is that the yardstick you used for measuring
11 success?

12 A. State that again.

13 Q. Mr. Rhoads said that he thought that from
14 reviewing your prefiled testimony that you used as a
15 yardstick for success offensively attacking the fire in
16 the first phase.

17 A. Oh, I understand the question.

18 Well, failure to or the inability to attack and
19 extinguish the fire in Phase 1 isn't failure. I mean,
20 the incident commander is sizing up what options that
21 you have.

22 Any good incident commander, the most important
23 job is to keep the people safe and change the outcome.
24 So if I can't change the outcome of the incident and
25 have safety, then I have to look at other options. So

1 if I can't attack and extinguish the fire because of the
2 conditions I'm dealing with, I don't define that as
3 failure. It just means that that option's not open to
4 me, and I have to move on to other options.

5 **Q. Given that in the 20 fires no one has been able**
6 **to mount an offensive attack in that Phase 1, you're not**
7 **critical of the agencies for not having done that, are**
8 **you?**

9 A. No. I think in some cases it was a pretty smart
10 thing for the incident commander not to intervene.
11 First of all, you need the right resources.

12 **Q. Let's talk about that. In that first phase,**
13 **what would you have to do to mount an offensive attack?**

14 A. Well, your first priority is life safety, so
15 rescue and evacuation. That's where I would put my
16 resources, and I think most incident commanders would do
17 the same thing. And then if you have achieved that
18 objective, then you move on to the objective of
19 protection of property and environment.

20 **Q. So if you're going to offensively try to**
21 **extinguish and suppress the fire in Phase 1, what do you**
22 **need?**

23 A. First of all, you need the human resources. You
24 need the firefighters. What you heard the chief say
25 yesterday, for a small volunteer fire department, it

1 depends on what day it is.

2 If that fire would have, in his words, if the
3 derailment would have occurred on July 4th, they would
4 have been in serious trouble because they only had three
5 people available. The mutual aid companies were already
6 committed for two days on a wild land fire and they were
7 exhausted, but whereas, the day that the derailment
8 occurred in Mosier, they had plenty of local resources.
9 So trained people is the first requirement.

10 Number two would be a water supply. You need an
11 adequate and uninterrupted water supply. What
12 Chief Appleton said yesterday is that it took them one
13 hour to figure out what the problem was and three hours
14 to establish the water supply, and then he could begin
15 his defensive operation.

16 **Q. So at that point, too late to do an offensive**
17 **strategies?**

18 A. Yes. So water supply is a big deal because in
19 these fires, depending on how many cars are on fire,
20 what your exposures are, you need a lot of water and it
21 needs to be uninterrupted.

22 **Q. Why?**

23 A. Well, first of all, the people that are going to
24 go in harm's way that are going into the hot zone that
25 would be in that, quote, 650-foot potential risk area,

1 they need to be protected with a backup, with backup
2 lines and cooling water. And you need cooling water to
3 protect exposures for structure or, in the Mosier
4 incident, they used water to wet down areas that
5 potentially could be exposed by the brush fire.

6 So you need the water supply. And if you hope
7 to do extinguishment either in Phase 1 or Phase 2, then
8 you need foam concentrate. If you're going to do it on
9 the front side of the incident in the first one to two
10 hours, you're going to need a lot of foam concentrate.

11 **Q. And why is that?**

12 A. Well, because you have a much larger fire.

13 **Q. It hasn't burned itself down?**

14 A. That's right. So a lot of locations I've gone,
15 they have large quantities of foam, but they had no plan
16 for getting it there. You know, you need -- not just
17 the foam. Foam is not just the solution to the problem,
18 you need to have a foam logistics plan.

19 Having 10,000 gallons of foam and getting it
20 there and getting it actually engaged with the proper
21 application devices, it's not as easy as it sounds. So
22 that requires training and also exercising it.

23 **Q. If you could, then, assuming you're not able to**
24 **mount that offensive strategy in Phase 1, just generally**
25 **describe for us, then, the non-intervention or defensive**

1 **strategy phase. What activities are responders engaging**
2 **in?**

3 A. Well, on defensive operations you're doing
4 things like spill control, you're keeping cooling water
5 in check, like the examples I gave you earlier to keep
6 the fire in check. And non-intervention, you've run a
7 mental movie early in the incident and you can see how
8 the whole movie is going to turn out in your head, and
9 you can see that it's going to be bad or potentially
10 bad. So the risk is so great that the only acceptable
11 or prudent thing to do is to withdraw your resources,
12 your firefighters to a safe distance, keep people out of
13 the way, set up a perimeter and just let it run its
14 course.

15 **Q. And then you said you wait for that situation to**
16 **stabilize. How long can that last before you're able to**
17 **move into the third phase of the operation?**

18 A. Well, that can last 8 to 12 hours. If you use
19 the Mosier example against this curve, it took them one
20 hour to figure out what the problem was, three hours to
21 develop a defensive strategy and actually start
22 implementing it. It took them 14 hours to get to the
23 point where they could get the equilibrium and then go
24 in and actually extinguish the fire.

25 **Q. Anything else on this diagram that you'd like to**

1 **comment on?**

2 A. No, sir.

3 **Q. All right. I'd like to ask you whether or not a**
4 **unit train transporting crude oil, a hundred, 120 cars**
5 **all hauling crude oil, does that present a different**
6 **challenge to emergency responders than would a**
7 **derailment of a mixed freight train?**

8 A. Well, I think so. I've been on mixed freight
9 train derailments and now a crude train derailment, and
10 I've seen the different dynamics that take place.

11 On a general freight train, yes, you have -- in
12 many cases you have hazardous materials on board of
13 different classes, Class 1, 2, 3, 8, whatever, but
14 they're typically not bunched together like 30 cars in a
15 row. They're dispersed throughout the train.

16 You also have other commodities in there, you
17 know, everything from light bulbs to bananas, and there
18 are different types of configurations of cars. If you
19 think of a boxcar like an accordion collapse, there's a
20 lot, of course, energy in a general freight train
21 derailment, but some of the energy is absorbed by the
22 car. I've seen boxcars that are crushed like you take a
23 milk carton and crash it.

24 This is the reason why that on tank cars behind
25 the lead locomotive is what you see there. They have

1 sand cars that are there.

2 Why are they there? They're there to help
3 protect the locomotive engineers and maybe absorb some
4 of that energy.

5 In a tank train, you have 98 to 100 cars or you
6 could have by definition I think it's 35 or more cars,
7 but they're all connected together in series. They're
8 all of the same mass. And so that's a lot of energy,
9 car after car. Imagine a hundred cars going down a
10 track at whatever speed. Plus you have so much fuel
11 load there.

12 And in general, how can you compare a 100-car
13 train with roughly 30,000 gallons of volatile flammable
14 liquid in each car to a general freight train derailment
15 in terms of its actual potential?

16 **Q. Based on your visit to Vancouver, are there**
17 **areas of Vancouver that you think that responding to an**
18 **oil train fire would be especially challenging?**

19 A. Well, yeah. We discussed one was Marine Park
20 and the other at the city hall area. But there are
21 other areas up along, up and down the track where water
22 supply would be an issue, and also access to fire
23 apparatus.

24 **Q. And can you describe a little bit more what**
25 **would be challenging in those areas?**

1 A. Well, between the rail track and the river,
2 there are grade crossings that have limited access. I
3 think we saw in yesterday's testimony the grade crossing
4 expert talking about the tunnel. When I met with the
5 fire department, the fire department officers, they
6 expressed concern about being able to get some of their
7 heavy apparatus into those areas. Chief Molina, in
8 particular, told me that he had concerns about the
9 ability to get fire apparatus into some of those areas.
10 The large aerial trucks could not fit through that
11 tunnel.

12 **Q. And what about the availability of water along**
13 **the rail line and the east side of Vancouver? Are you**
14 **familiar?**

15 A. Well, that's a problem in most communities,
16 which is why in some of these derailments
17 non-intervention strategy is what they had to go with,
18 because just getting the equipment to the site is a
19 problem because of access, and then water supply
20 requires tanker shuttles or drafting. Because there are
21 no hydrants.

22 **Q. Now, when you came to Vancouver, did you meet**
23 **with Vancouver fire department personnel?**

24 A. Yes, I did. I met with most of the top
25 leadership.

1 **Q. All right. In Pages 21 to 22 of your testimony,**
2 **you discuss some of the concerns that you have regarding**
3 **the Vancouver fire department's ability to respond to an**
4 **oil train fire, and I'm wondering if you could describe**
5 **for us what those concerns are.**

6 A. Well, in 22, I think I'm talking about the
7 response to the terminal, but the train derailment
8 presents similar incidents. Well, just speaking to the
9 terminal, if you look at the resources that would
10 typically be responding to a terminal, and most
11 industrial areas that I'm familiar with, I've worked in
12 at least 30 refineries, so I'm pretty familiar with what
13 fires are like in those facilities and what's required
14 in terms of a response. You typically would deploy four
15 engine companies, two ladder companies, a HAZMAT unit
16 and support units.

17 So for that type of box assignment to be
18 applied, that would be 24 -- they had 24 firefighters on
19 duty, so just that assignment would use up 60 percent of
20 on-duty resources. And the city fire department
21 response to about 70 calls a day, so they still have to
22 maintain their call volume.

23 **Q. You mentioned HAZMAT. Does the Vancouver fire**
24 **department have a HAZMAT team?**

25 A. Yes, they do, but it's cross-staffed.

1 **Q. What does that mean when you say it's**
2 **cross-staffed?**

3 A. Well, a lot of fire stations provide different
4 types of services, an engine company, a ladder company,
5 a medic unit or some specialty unit like a technical
6 rescue, confined space rescue, water rescue, or a
7 hazardous materials. And because of the call volume for
8 the special services, most departments unless you're a
9 very busy department like Houston, which has a dedicated
10 team, they cross-staff that.

11 So if there's an engine company call or a ladder
12 company call, those firefighters staff that unit and the
13 HAZMAT unit sits unstaffed in the station. So if
14 they're committed to a working incident, they're not
15 going to just take off their gear and drop their hoses
16 and drive back to get the HAZMAT unit. They're going to
17 have to find another station in the city that has the
18 qualified HAZMAT technicians or they have to do a
19 recall.

20 **Q. Okay. So this --**

21 A. Which means they recall off-duty personnel.

22 **Q. Does it take time to assemble the HAZMAT team?**

23 A. Yeah. Chief Molina told me what the time was
24 and I don't remember it, but he did point out that they
25 had firefighters that lived in Seattle. Because of the

1 shifts that they work, they can live far out.

2 **Q. So putting it in the context of assembling the**
3 **team and getting them onsite within the Phase 1 one to**
4 **two hours, is that likely?**

5 A. I would say, yeah, one to two hours for sure.
6 You know, 20 minutes to an hour to be able to field a
7 second team.

8 **Q. The mutual aid, you heard Chief Molina's**
9 **description on the limitations of being able to rely on**
10 **mutual aid?**

11 A. Yes. Mutual aid is available, but on the HAZMAT
12 mutual aid, there is a mutual aid agreement with the
13 City of Portland fire, but HAZMAT is off the table.

14 **Q. When you say between Vancouver and Portland, are**
15 **you talking?**

16 A. Yes. Vancouver and Portland have a mutual aid
17 agreement, and that's a fairly regular thing, but
18 because Portland, like Vancouver, has a dedicated single
19 unit, it's not included in the mutual aid agreement. In
20 other words, it's not a legally binding guaranteed
21 thing.

22 **Q. You said it's off the table?**

23 A. They may come and they may not come. It depends
24 on what they have going on; whereas on other issues,
25 it's automatic mutual aid. They legally sign a mutual

1 aid agreement that you call us, we'll come. We'll bring
2 the resources that you need.

3 But HAZMAT is a specialized resource. Once it
4 comes across the bridge, we don't have it anymore.

5 **Q. Vancouver fire department that has a cache of**
6 **foam for firefighting, doesn't it?**

7 A. Yes, it does.

8 **Q. I think on Pages 21 to 22 of your testimony.**

9 A. Yeah. I think in the area there's something
10 like 19,000 -- let me check. Yeah, there's 18,365
11 gallons to get to the gallon available in the region.
12 That total of 1600 gallons, or like 8.7 percent, is
13 immediately mobile, meaning that it's on a vehicle and
14 in seconds I could start the ignition and I can drive
15 out the door.

16 And then that would be immediately available,
17 like at least in 20 minutes. And then there's
18 6,365 gallons, that's about 34 percent, in a foam cache
19 that's readily available that's owned by various fire
20 departments. There's another 4,700 gallons stored on
21 pallets that has to be transloaded to -- that are on
22 what's called pods. They have to be transloaded to a
23 flat-bed truck or a chain rig that pulls it up and then
24 driven to the scene.

25 And the rest of it, some 12,000 gallons, is

1 stored at Boeing in a fixed tank so that would have to
2 be transloaded. So while 19,000 gallons of foam
3 concentrate, I'm impressed. That's a pretty impressive
4 cache of foam available. In terms of rapid response in
5 that first phase, you're not going to be able to
6 mobilize it. You're looking at somewhere around
7 1600 gallons that can go out the door right away.

8 **Q. Mr. Rhoads testified about the limitations of**
9 **foam and suppressing fires with respect to two**
10 **dimensional and three-dimensional fires. You reviewed**
11 **his prefiled testimony?**

12 A. Yeah, I agree with what he said. Essentially
13 what he's saying is that foam applications with a
14 three-dimensional fire is not going to be effective. I
15 think the top of the railcar, if you had a fire burning
16 at the top of the railcar, foam is going to just run
17 off. For it to be effective, it has to be able to flow
18 smoothly and spread out. So it's very effective on pool
19 fires.

20 **Q. You in your prefiled testimony on Page 23**
21 **addressed a response that would include an evacuation.**
22 **Do you have concerns relating to the ability to conduct**
23 **an evacuation in an area of Vancouver?**

24 A. Yeah. Well, one of the issues in Vancouver is
25 that they do have emergency management. Clark County

1 does have an emergency communication notification
2 system, and it works. But it doesn't have the -- it's
3 not the enhanced system, so it doesn't have the ability
4 to issue customized messages. In other words, they
5 can't customize the message to dial out all but the
6 first 1,000 homes that are closest to the derailment
7 with a message like there's been a derailment in your
8 neighborhood, you need to evacuate, and then tell them
9 where to go. So they're somewhat limited in their
10 ability to evacuate. And then there's also the issue of
11 the lack of shelters.

12 **Q. What about evacuation routes; is there any**
13 **concern about those?**

14 A. Well, of course it's an area of the bridge and
15 so that is a restriction. According to CRESA, they told
16 me that --

17 **Q. You said CRESA. What is that?**

18 A. That's the emergency management agency.

19 **Q. C-R-E-S-A?**

20 A. Yeah, C-R-E-S-A, Clark County Regional Emergency
21 something. We call it -- it's the emergency management
22 agency for the area.

23 The data that they gave me was that if you used
24 Guide 128, the 1/2-mile radius, that of course is a mile
25 in diameter, in the city there are areas that have

1 population densities of 7- to 13,000 people that they'd
2 have to notify.

3 **Q. Okay. And in the area south of the railroad**
4 **tracks, in eastern Vancouver, are there limited escape**
5 **routes?**

6 A. Well, on just a regular day if there's a problem
7 with the train, not a derailment, a one-mile tank train
8 blocks most of the public access areas. The grade
9 crossings are blocked, so if you're sitting in your home
10 with a nice view of the river but you can't get out of
11 your driveway because the train is blocking it.

12 **Q. With respect to the terminal facility itself,**
13 **there's been testimony that there will be foam**
14 **suppression systems in three areas, the storage tank**
15 **area, the railcar unloading area, and the marine**
16 **terminal area, and those systems will rely on a single**
17 **fire pump to provide sufficient pressure to operate**
18 **those systems.**

19 **In your experience, is relying on a single fire**
20 **pump a prudent approach to operating those systems?**

21 A. Well, no. As I said earlier, I've been in about
22 30 refineries doing assessments, and typically what we
23 would see in a refinery is you would have redundancy,
24 because you have billions of dollars at stake and lives
25 are at risk and a lot is -- they're betting a lot on

1 that fire pump working. So typically you would have
2 redundancy. I've seen triple redundancy in some areas.

3 And also the facilities are laid out in zones.
4 Typically, if the fire is in Zone A, you can usually
5 pump water from Zone 2 or B to Zone A. So a typical
6 configuration would be a diesel pump and an electric
7 pump or an electric pump and a steam pump, or a steam
8 powered pump, electric powered pump, diesel powered
9 pump. So that if your electricity goes down, I still
10 have an alternative. If the diesel won't start, I still
11 have an alternative.

12 And I've seen a lot of diesel fire pumps. They
13 do what they're designed to do, but they're kind of like
14 the family cat and dog. They've got to be fed, they
15 have to be loved, they've got to be taken care of.

16 And so everyone's experienced a chain saw that
17 won't start or the weed whacker or lawnmower won't start
18 because you really haven't kept the maintenance up on
19 it. So diesel pumps need regular maintenance. They
20 need to be started on a regular basis. And when they're
21 not, they have -- they can be problematic and not start.
22 But good inspection programs, you can keep it running
23 first time, every time.

24 **Q. Are you aware of with respect to emergency**
25 **response planning, have you ever conducted a gap**

1 **analysis?**

2 A. Yes, I have.

3 **Q. What is a gap analysis?**

4 A. Well, there's different types of gap analysis in
5 various types of detail and sophistication. But simply
6 put, a gap analysis looks at the hazards and risk that
7 are present at the facility and the ability to respond
8 and deal with those hazards and risks.

9 Hazards are constant, they don't change. The
10 flash point of gasoline is always going to be minus 45
11 no matter if it's in a refinery or Walmart. A 10-gallon
12 spill of gasoline in a refinery is just a regular thing.
13 Ten-gallon spill of gasoline in the Walmart is a big
14 emergency. So that's risk.

15 There's different variables in risk and risk
16 changes. So there's a scale, you're weighing hazards
17 and risk, and then you're taking a look at what the
18 response capability is to work with those hazards.

19 To the extent that there's a delta or difference
20 between response capability to mitigate the hazards and
21 deal with them, you have a gap, and so gaps lead to an
22 improvement plan and recommendations to try to make it
23 equal or better.

24 **Q. Are you aware of any gap analysis having been**
25 **conducted of the Vancouver fire department's ability to**

1 **respond to either an oil train fires or oil terminal**
2 **fires?**

3 A. No, I didn't see it. When I met with the HAZMAT
4 deputy chief and asked them about what he interviewed,
5 he said yes, they came over and talked to me and said,
6 Why don't you tell us what it is that you need and I'll
7 put it in the report? And his response was, That's what
8 they're paying you to do.

9 But when I looked at the credentials, who
10 prepared the report, I was pretty impressed, but I
11 didn't see anyone in there with a firefighting emergency
12 management background so maybe that's the reason they
13 didn't have the skill set to ask the right questions.

14 **Q. Is the report that you're referring to, is that**
15 **the Draft Environmental Impact Statement?**

16 A. Yes.

17 MR. POTTER: Your Honor, I don't have any
18 further questions of the witness at this point.

19 JUDGE NOBLE: Thank you, Mr. Potter.

20 It is now 10:28 and so this is a good time
21 to take a morning break. We'll be off the record for
22 15 minutes.

23 (Recess taken from 10:28 a.m. to 10:45 a.m.)

24 JUDGE NOBLE: We are back on the record.

25 MR. ODLE: Thanks, Your Honor.

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1 JUDGE NOBLE: Mr. Odle?

2 MR. ODLE: Council, my name is Nathaniel
3 Odle. I'm an Assistant City Attorney for the City of
4 Spokane.

5 The streamline thing, since we've also --
6 the City has also retained Mr. Hildebrand, I was going
7 to ask a few questions before we proceed on to cross.

8 DIRECT EXAMINATION

9 BY MR. ODLE:

10 **Q. Mr. Hildebrand, did you have the opportunity to**
11 **review the emergency capabilities in the City of Spokane**
12 **in connection with the train derailment?**

13 A. Yes, sir, I did.

14 **Q. And did you have an opportunity after performing**
15 **that analysis to put together a written report?**

16 A. I did. I actually made three trips to Spokane,
17 one in June of 2014, another in October of 2015 and
18 another in May of 2016.

19 **Q. Who did you meet with from those trips to**
20 **Spokane?**

21 A. On the first trip I was working for
22 Mayor Condon's office -- (Court Reporter interruption.)
23 Mayor Condon, the mayor of Spokane. I met with the fire
24 management and police management as well as the
25 emergency management leadership, and I inspected their

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1 rail line in the city. I visited with the fire
2 department to look at their capabilities. I flew the
3 entire rail line by helicopter with the customs and
4 border patrol along the entire length of the rail line.
5 And then I developed recommendations which I submitted
6 to the mayor, and they were acted on.

7 When I went back in October of 2015, I revisited
8 to see what gaps had been closed. Of the eight major
9 recommendations that I made, about 80 to 90 percent them
10 had already been implemented so they raised a high bar
11 in terms of the capability. The rest of those
12 recommendations were being implemented in 2016.

13 Then I went back in May of 2016 as part of a
14 tabletop exercise team, and I co-facilitated a tabletop
15 exercise sponsored by the Naval post-graduate school --
16 (Court Reporter interruption.) Naval post-graduate
17 school, that's a federally funded organization. It's a
18 federally funded, with the requirement to do, I think
19 they do about 20 tabletops around the U.S.

20 And Ed Lewis who is the director of emergency
21 management for Spokane requested that they host a Bakken
22 crude train derailment. And that was for the senior
23 leadership of Spokane County and the City of Spokane and
24 was attended by the mayor, the city council, all of the
25 chiefs of the emergency management agency, director of

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1 public works and so forth, the Air Force fire chief;
2 60 of the top leadership that would have to deal with
3 one of these derailments.

4 And we did a tabletop exercise for four hours
5 and then did the debriefing. And I co-facilitated that.
6 So it was a pleasant experience to see those
7 recommendations and the changes in action.

8 **Q. So returning to your prewritten expert**
9 **testimony, is everything in that testimony true and**
10 **accurate?**

11 A. Yes.

12 **Q. Would you give the council a brief summary of**
13 **concerns you have regarding the City of Spokane's**
14 **ability to respond to a train derailment?**

15 A. Well, the City of Spokane has a really good fire
16 department. I spent a lot of time with Assistant
17 Chief Brian Schaeffer who is the chief of operations
18 discussing what some of the challenges would be. And
19 like Vancouver they're very similar in terms of the
20 personnel available to respond, the size of the
21 department, the ability to establish the high water
22 flows early in the first phase of the incident, and the
23 ability to get foam to where they need it.

24 In Spokane's case, they made some significant
25 improvements over 2014 in terms of their ability to get

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1 foam where they need it. One is they entered into a
2 written mutual aid agreement with the -- with Fairchild
3 Air Force Base, which has, as you can imagine, quite a
4 lot of foam. Also improvements in foam mobility,
5 logistics plan, tabletopping the foam capability to get
6 it from Point A to Point B. Additionally, sending their
7 people to get additional training.

8 Prior to 2014, there wasn't any joint training
9 between the Air Force, Spokane County and Spokane city
10 with the HAZMAT response team capability. That's
11 happening now on a regular basis. So it's more like one
12 team, one fight. So water supply, foam supply, manpower
13 and evacuation capability.

14 **Q. Notwithstanding those improvements, do you have**
15 **any concerns regarding Spokane's ability to respond to a**
16 **scenario you've set forth in your report?**

17 A. Well, I think they would have the capability to
18 deal with incidents that were outside of the downtown
19 area or in areas that are less congested as opposed to
20 areas that are in the downtown part of the city where
21 the track going through downtown Spokane is actually
22 elevated. There are areas in downtown where the track
23 actually looks down on buildings.

24 I mean, you can easily throw a baseball from the
25 track and hit buildings all along through downtown.

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1 There's several hotels that are located along that rail
2 track in the downtown area. The overpasses between
3 Cedar and Adams Street, all the surface drainage flows
4 from 2nd to 1st. There's numerous structural exposures
5 along the highway. Any derailment in this place and
6 that neighborhood would actually place cars on top of
7 buildings.

8 The Ruby Red hotel is there. There's a historic
9 hotel that's in that area. And I'm sure that the track
10 is in good condition and they have safety -- the best of
11 the safety devices there, but if that track is similar
12 to what I saw or I could legally walk it before it
13 enters the yard, it looks like quite a lot of work has
14 been done to upgrade it, but nevertheless, as you've
15 seen in other cases, you can still have derailments.
16 And I was asked specifically by Chief Schaeffer to come
17 up with some scenarios that would be challenging from
18 the fire department and that certainly would be one of
19 them.

20 Another one would be the elevated overpass
21 between Lincoln and Post. A derailment in that location
22 would directly drop cars into the Ruby Hotel, literally
23 into the building. Also, the historic Davenport Hotel
24 would also be exposed to fire, and all that drainage
25 flows downhill towards 1st towards the Davenport Hotel

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1 and then it eventually drains toward the river. So
2 whether it's burning or not, you would have serious
3 spill problems there.

4 And the third area is the elevated rail bridge
5 in the 200 block of Sprague Street, which is the cross
6 street there is Division Street. So those are three
7 that we discussed that would present some serious
8 firefighting and fire control issues because of the
9 population density, the types of construction of the
10 structures, the density between the structures, the
11 topography which flows down and the drainage flows down
12 and moves it into other areas.

13 **Q. You testified earlier that you are familiar and**
14 **in fact attended the derailment in Mosier, Oregon.**

15 **Focusing on just the downtown area of Spokane,**
16 **can you articulate any challenges that Spokane**
17 **firefighting staff would encounter if such a scenario**
18 **were to occur in Spokane?**

19 A. Well, if you had a derailment and it occurred
20 the same thing with Mosier, 60 cars derailed, 4 on fire,
21 and it was on that area between Cedar and Adams, you
22 would have a very, very serious problem, because the
23 ability to control that fire of that magnitude early on
24 with that many structures on fire, I think you would
25 lose quite a few buildings.

KISIELIUS / HILDEBRAND

1 With life safety and rescue being the first
2 priority of most fire departments, just accomplishing
3 that objective would be a challenge. And if it happened
4 at nighttime, it could be even more difficult.

5 MR. ODLE: That's all the questions I have.

6 THE WITNESS: Okay. Thank you.

7 JUDGE NOBLE: Mr. Potter, did you have any
8 questions regarding the Spokane situation?

9 MR. POTTER: No, Your Honor.

10 JUDGE NOBLE: So cross-examination?

11 CROSS-EXAMINATION

12 BY MR. KISIELIUS:

13 **Q. Mr. Hildebrand, I'm going to try to swing over**
14 **here so you don't have to crane your neck as far.**

15 A. I can see you guys.

16 **Q. My name is Tadas Kisielius, I'm attorney for the**
17 **applicant. And I have a couple questions for you about**
18 **your written, prefiled testimony and your testimony here**
19 **today.**

20 A. Okay.

21 **Q. I'd like to start with some follow-up questions**
22 **on the pumps at the facility.**

23 You said it's common in your experience to see
24 **that duplicate or double pumps?**

25 A. Yeah, redundancy.

KISIELIUS / HILDEBRAND

1 Q. Redundancy. When you said "common," were you
2 referring to refineries?

3 A. My experience at refineries, yes.

4 Q. You also talked about inspection and the
5 importance of inspection and ensuring diesel pumps work.

6 A. Right.

7 Q. Are you familiar with the inspection protocol
8 for the pumps at this facility?

9 A. No, I'm not.

10 Q. So in the application, and for the council's
11 reference, Page 7391, it references the inspection is
12 going to be consistent with NFPA protocols.

13 Are you familiar with those?

14 A. You mean NFPA 25?

15 Q. Yes.

16 A. Yes.

17 Q. Is that the kind of inspection you're referring
18 to?

19 A. Yes.

20 Q. Okay. I'd like to ask you some follow-up on the
21 rail scenarios. Just to clarify, I think you in your
22 written testimony called them plausible scenarios. I
23 think Mr. Potter referred to them as credible scenarios.

24 Did you think about the probability of an
25 incident occurring at those specific locations in your

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1 assessment?

2 A. Yeah. I think I said earlier that they would be
3 very low probability and high consequence events, and of
4 course that's the basis that the fire department wants
5 to plan to.

6 **Q. But did you -- I mean did you try to quantify**
7 **what that probability is in comparison to other places**
8 **along the rail route or in the near vicinity?**

9 A. No, I wasn't charged to do that. What I was
10 asked to do for the fire department and emergency
11 management folks was to look at locations that could be
12 low probability but high consequence for them to focus
13 on planning and training.

14 **Q. But I guess the focus there was on, as you said,**
15 **the challenge, or are you looking at the consequence of**
16 **the event when you're trying to identify those**
17 **locations?**

18 A. Well, I think I addressed some of the
19 consequences in terms of where the drainage would flow,
20 exposure to structures.

21 **Q. Right. And I think in one of them with the**
22 **Marine Park vicinity you talked about how it was**
23 **comparable to what happened at Mosier. That's how you**
24 **testified just today?**

25 A. Yes.

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1 **Q. But again, is that comparison based on the**
2 **potential consequence of an incident there or based on**
3 **your assessment of the probability of an incident there?**

4 A. Well, my statement on Mosier is, it is what it
5 is, it happened. And it's very similar to what I
6 described in the scenario.

7 **Q. Okay. But based on the proximity of the park**
8 **and based on the location in relation to an underpass,**
9 **those were the types of things that you were referring**
10 **to when you said it was comparable?**

11 A. Well, I said that in the scenario, the
12 derailment could occur next to the state-of-the-art
13 sewage treatment plant. In Mosier, it occurred next to
14 a treatment plant.

15 I stated that the derailment could occur next to
16 a Marine Park and in Mosier, it occurred next to a
17 Marine Park. I stated that the fire could run up the
18 hill in the brush and in Mosier, it ran up the hill in
19 brush. And I stated that there were wooden structures
20 at the top of the hill that could be ignited. And in
21 Mosier, there were wooden structures at the top of the
22 hill, but fortunately, they cut that fire off.

23 **Q. Understood. Thank you.**

24 **Talk a little bit about your testimony on the**
25 **evacuation, and maybe we'll start with the Marine Park**

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1 scenario. You had testified about some concerns of the
2 ability to evacuate that area.

3 And did I understand correctly your testimony
4 was that from the park you had to cross the tracks in
5 order to evacuate the area?

6 A. I don't recall that I said that. What's your
7 point?

8 Q. Well, I guess I'm wondering, I thought I had
9 heard you say, and perhaps I'm in error, I thought I
10 heard you say there would be no ability to get people
11 out of there if there was a derailment.

12 MR. POTTER: Object to the form of the
13 question. That was not the testimony.

14 BY MR. KISIELIUS:

15 Q. Perhaps you can clarify the nature of your
16 concern with the evacuation in that area.

17 JUDGE NOBLE: Just a minute. There's been
18 an objection.

19 MR. KISIELIUS: I'm sorry. I'll withdraw
20 the question.

21 JUDGE NOBLE: All right. So the witness can
22 say what his earlier testimony was, but also you can ask
23 another question that accurately states it. Thanks.

24 BY MR. KISIELIUS:

25 Q. I just -- I was confused by the testimony

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1 earlier so I was hoping you could explain, what is your
2 concern with evacuation from the Marine Park area?

3 A. Well, you have a railroad track with a potential
4 derailment and fire with the slope generally going
5 towards the Marine Park, and you would have people
6 between the river and the fire.

7 Q. Okay. And --

8 A. So if you were in a fire, wouldn't you want
9 multiple ways -- wouldn't you rather be on the other
10 side of the fire and not between the rail track and the
11 river?

12 Q. Sure. But I guess I'm asking the question,
13 isn't Columbia Way -- or Columbia Drive, doesn't that
14 span the length of the river at that point with
15 directions, options to go either way?

16 A. I don't recall, but if your point is that there
17 might be a faster or multiple ways out, I'll concede the
18 point. But the park is still where it is between river
19 and the fire.

20 Q. Okay. On the evacuation topic, in your written
21 testimony you say a "train in downtown Vancouver would
22 block two-thirds of the road exits."

23 Do you recall that testimony?

24 A. Yeah. That's in error.

25 Q. Okay. You had testified to your understanding

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1 of the number of people that could potentially need to
2 be evacuated as ranging between 7- and 13,000 people.

3 A. Yeah, that's not my opinion. That was
4 information provided in my interview at CRESA,
5 Mr. Johnson.

6 **Q. Do you know if that includes the rail route**
7 **proceeding north from the intersection where the train**
8 **turns off and goes into the Port rail yard?**

9 A. No, I do not.

10 **Q. I noticed that your testimony focuses on DOT-111**
11 **and CPC-1232 tank cars.**

12 A. Yes.

13 **Q. Have you considered the differences between the**
14 **tank car type and the fact that this facility will**
15 **utilize DOT-117 standard tank cars?**

16 A. Well, I think using 117 tank cars is a good
17 thing. Anything that can improve the quality of the car
18 and reduce the probability of a breach in the car,
19 that's good safety.

20 However, these cars, as Mr. Chipkevich testified
21 yesterday, these cars are still going to be in the fleet
22 for some time. So eventually, like we saw with the
23 DOT-112 tank cars in the '70s and once those cars were
24 retrofitted, they still had derailments. They just
25 weren't as bad.

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1 Q. You just said something, these cars will be in
2 the fleet for a while, and I understand that's going to
3 be the case potentially for other traffic.

4 But does that really affect -- what impact does
5 that have if the facility will only receive DOT-117s?

6 A. Well, for all 117s, obviously it will be better
7 safety than the CPC-1232 or the 111s.

8 Q. Let me go back to, there's a discussion you had
9 with Mr. Potter about the need to respond to an event
10 within the first hour using offensive tactics, so it's
11 with reference to your graphic that you were showing
12 earlier. Mr. Potter asked you a question whether it was
13 a failure to not have been able to use offensive tactics
14 in the first hour and extinguish the fire, and I think
15 you said no.

16 I want to ask you, is that the measure of the
17 adequacy of the response measures? In other words, is
18 that how you're measuring whether a fire department has
19 adequate response capabilities?

20 A. In what regard?

21 Q. Well, in regard to their ability to respond to a
22 derailment.

23 A. Why don't you expand upon the question so I
24 better understand it?

25 Q. Well, what I'm hearing a little bit is an

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1 implication that the need to respond within the first
2 hour with offensive tactics is something that we're
3 measuring.

4 A. I don't think I said you "need" to. I think --
5 and I can be clear now if I did.

6 If you hope to change the outcome based on real
7 world experience, the opportunity to use offensive
8 tactics and cut the fire off and extinguish it, you have
9 about one hour, not more than two, based on real world
10 experience to change that outcome.

11 **Q. But isn't it also true that defensive tactics,**
12 **the ones that you described, are always desirable over**
13 **offensive tactics if they can accomplish the same**
14 **objectives?**

15 A. Maybe. The first priority and objective would
16 be life safety. So you might have a situation where
17 you're using the resources you have available using
18 offensive tactics to achieve those most important
19 objectives which are rescue and evacuation.

20 **Q. So they are not always preferable to offensive**
21 **tactic?**

22 A. Who is "they"?

23 **Q. Defensive tactics are not always preferable to**
24 **offensive tactics if they can achieve the same**
25 **objective?**

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1 A. Well, there's three strategic opportunities;
2 offensive, defensive, and non-intervention. And the
3 reality of response in these situations is one is not
4 necessarily the right one over the other. It depends on
5 the situation that you're dealing with and each one of
6 those incidents is different.

7 Is it in a rural area where there's no life
8 safety issue? Is it in an area where you don't have any
9 drainage to navigate the waterways or water sheds? Is
10 it in an urban area next to a hospital or a school? All
11 those situations are different.

12 **Q. I understand. I guess you've never taken the**
13 **position before that it's always preferable to use**
14 **defensive tactics if they achieve the same objective?**

15 A. Well, in the emergency response world, like the
16 law enforcement world, the word "always" seldom applies.

17 **Q. You testified earlier about your book, the**
18 **responders, "Hazardous Materials: Managing the**
19 **Incident."**

20 **Are you familiar with that book?**

21 A. Pretty familiar.

22 **Q. So if -- reading a couple quotes from that book,**
23 **"Defensive tactics are always desirable over offensive**
24 **tactics if they can accomplish the same objectives,"**
25 **from Page 104.**

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1 On Page 243, "Defensive tactics are always
2 preferable over offensive tactics if they can accomplish
3 the same objectives?"

4 That specific quote is repeated several times
5 throughout your book, so are you saying now that that's
6 incorrect?

7 A. Yeah. Well, it's not too often that you can use
8 defensive tactics to achieve a life safety objective of
9 rescuing someone that's trapped or you want an immediate
10 evacuation.

11 **Q. Okay.**

12 A. But if you're asking if the author who wrote
13 that is right, I'll concede the point that you're right,
14 that what you're reading is probably what I wrote.

15 **Q. Okay. Aren't offensive tactics, don't they**
16 **sometimes lead to bad outcomes?**

17 A. That's true. Kingman, Arizona is a good example
18 that I mentioned earlier. The outcome would have been
19 better had they never left the fire station.

20 **Q. So I guess I'm wondering, again, if we're trying**
21 **to find the adequacy of response capabilities of a fire**
22 **department, is the measure that you have the ability to**
23 **employ offensive tactics within the first hour?**

24 A. Not necessarily.

25 **Q. Let's focus a little bit on your testimony about**

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1 the City of Vancouver's ability to respond to an
2 incident, and I think you testified both in your written
3 statement and also today that it would utilize
4 60 percent of the city's staff.

5 A. Talking Vancouver?

6 Q. Yes. So --

7 A. On-duty staff.

8 Q. And does that take into consideration mutual
9 aid?

10 A. No, it does not.

11 Q. And again, I'm going to return to this benchmark
12 that we're trying to establish here.

13 Is the ability to respond to an incident
14 determined by the fire department's ability to handle it
15 entirely on its own?

16 A. No. But you have to keep in consideration the
17 timeline and the time it would take to get those mutual
18 aid resources and actually get them employed.

19 Q. So isn't it the case that there's no single
20 agency that can effectively manage a major emergency
21 alone?

22 A. I would say that's true, especially with
23 volunteer departments.

24 Q. And isn't that true --

25 A. That sounds like something I wrote.

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1 Q. -- isn't it true also that a single first
2 responder, the first one to respond, if they seek to
3 maintain usual control over an incident, it will have
4 inherent problems in implementing a timely and effective
5 emergency response?

6 A. You mean like in a single unit, single command?

7 Q. Yes.

8 A. Well, when you have multiple agencies
9 responding, unified command, if you understand how to
10 play the game, usually gets better results.

11 Q. On the HAZMAT specific portion of the response,
12 the HAZMAT team, you had talked about the HAZMAT
13 capabilities of Vancouver and you talked about the
14 limitations of utilizing Portland's through mutual aid.

15 Must that HAZMAT role be played by a fire
16 department, a public fire department?

17 A. It could be played by another agency, you know,
18 like a department of environment HAZMAT team, an
19 industrial HAZMAT team.

20 Q. And could it be played by industry, for example,
21 the railroad?

22 A. I just said industrial.

23 Q. Sorry.

24 A. In fact, the railroads have some extremely
25 capable HAZMAT responders and teams. In the UP response

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1 to the Mosier incident, in some cases that team was a
2 game changer.

3 But having their access early on, the industrial
4 teams that come from the railroad serve a couple
5 purposes. One is they fit into the unified command and
6 represent the railroad's interest and expertise. Two,
7 they provide technical expertise as an advisor to the
8 incident commander on the product in the containers.
9 And if they're close enough, they might be able to bring
10 assets like foam, nozzles and things like that that can
11 be employed and become part of the -- you know, incident
12 command, effective resource management means we don't
13 really care who brings the toys as long as we get to use
14 them.

15 **Q. So you talk about the significant challenges**
16 **presented by a HAZMAT event, and I would imagine that**
17 **the risks associated with a HAZMAT response are never**
18 **going to be completely eliminated; is that correct?**

19 A. That's pretty difficult.

20 **Q. But do you agree that they can be successfully**
21 **managed?**

22 A. Yeah, if you can effectively control the
23 hazards.

24 JUDGE NOBLE: Mr. Hildebrand, don't forget
25 to talk into the microphone so the council can hear you.

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1 THE WITNESS: I'm not talking in it?

2 JUDGE NOBLE: You were very away from it.

3 THE WITNESS: I'm sorry. Thanks for
4 pointing that out. Just as long as I'm not out of it.

5 Please go ahead, sir.

6 BY MR. KISIELIUS:

7 Q. And controlling the hazards as you described it
8 includes offensive tactics, defensive tactics, and
9 non-intervention; correct?

10 A. Yeah, that's in the incident commander's choice
11 of options.

12 Q. Okay. Let me ask you, are the issues and
13 concerns that you describe today in your testimony and
14 in your written statement unique to the trains traveling
15 to and from this facility?

16 A. Expand upon that. Tell me more.

17 Q. I mean, does that risk exist with other trains?
18 You talked about, for example --

19 A. You mean like general trains that have HAZMAT?

20 Q. Yes.

21 A. Yeah. Similar risk, except the general freight
22 trains don't have 130,000 gallon railcars all lined up
23 together.

24 Q. Well, what about other unit trains?

25 A. Well, there are other types of unit trains out

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1 there, like gasoline unit trains.

2 Q. Well, I guess what I'm trying to say is doesn't
3 the -- are the unit trains traveling to this facility
4 the sum total of all the unit trains of oil traveling on
5 this rail line?

6 A. I don't know.

7 Q. If I told you that there were others, would you
8 say that that's a similar risk?

9 A. I mean, I personally have seen rail trains on
10 this route and I've seen them in Spokane and Vancouver.
11 And obviously, the terminal is not built yet, but I
12 think the issue is raised earlier by some of the folks
13 that testified is the number of unit trains --

14 Q. Sure. But wouldn't --

15 A. -- increase.

16 Q. -- Spokane and Vancouver want to be prepared to
17 address the risks of those trains as well?

18 A. Yeah, of course.

19 MR. KISIELIUS: I have no further questions.
20 Thank you.

21 THE WITNESS: Thank you, sir.

22 JUDGE NOBLE: Redirect?

23 MR. POTTER: Thank you.

24 JUDGE NOBLE: Mr. Potter.

25

1 REDIRECT EXAMINATION

2 BY MR. POTTER:

3 Q. Does the fact that the facility being proposed
4 in this proceeding is an oil terminal handling
5 360,000 barrels of oil per day as opposed to a refinery
6 change your opinion about the risk involved in relying
7 only on a single diesel fire pump?

8 A. No.

9 Q. You didn't do a statistical analysis of the
10 mathematical likelihood of your plausible scenarios
11 occurring in Vancouver, did you?

12 A. No, sir. That would be dangerous if I did that.

13 Q. But you were asked to develop scenarios that
14 were plausible; correct?

15 A. Practical scenarios that would be challenging
16 for the fire department to develop plans and think about
17 training.

18 Q. The 117, that's not immune from puncture, is it?

19 A. Well, I don't have any experience with the 117,
20 but I could provide an example. The chlorine car is
21 almost bullet proof. It needs to be because it's
22 hauling a deadly poison. But there have been
23 derailments with chlorine cars that have failed.

24 Q. Likewise, is the 117 immune from the
25 heat-induced tear?

1 A. Well, it'll be -- with fire protection it will
2 be less --

3 **Q. It's improved?**

4 A. Yeah, it will be an improvement. But we don't
5 know what we don't know. I haven't seen any dynamic
6 testing of the cars.

7 **Q. There was testimony earlier that the 117 was**
8 **designed with thermal protection to withstand a full**
9 **fire for 100 minutes. Did you hear that?**

10 A. Yes.

11 **Q. Okay. How long did the pool fire last in**
12 **Mosier?**

13 A. Well, the fire started around -- soon after
14 12:30, and they had fire -- the fire continued until
15 around 2:00 a.m., so 13 1/2 hours.

16 **Q. In your review of derailments involving fire, is**
17 **it common to have the fire last more than 100 minutes?**

18 A. Well, of course, yeah.

19 **Q. I'd like to try and get some clarification on**
20 **this business about the objective of an offensive and a**
21 **defensive strategy and the preference for a defensive**
22 **strategy if it can achieve the same objective.**

23 **First of all, what is the objective of an**
24 **offensive strategy?**

25 A. Well, number one would be life safety, rescue

1 and evacuation followed by a rapid attack, control and
2 extinguishment of the fire so that it doesn't expand and
3 create an additional threat.

4 **Q. Right. And you've referred several times to**
5 **life safety being the first priority. And by that, how**
6 **is that addressed? I think you've said it, but I just**
7 **want to make sure it's clear.**

8 A. Well, first of all, rescue. You could have
9 people that are entrapped, you could have people that
10 are in areas that have blocked accesses. So you want to
11 quickly remove those obstacles so you can create a free
12 flow. In some cases, when you have crowds of people,
13 they're confused and they don't really know -- they need
14 direction as to where they -- what they should do.
15 Think 9/11. Firefighters saved probably 25,000 lives
16 because they went in and provided direction.

17 **Q. So that's life safety. And then the attack on**
18 **the fire itself is the other objective and**
19 **extinguishment is the goal?**

20 A. Yes. And the third would be to protect the
21 environment. If you could implement spill control and
22 do that offensively, that might take -- that might
23 require some risk taking to do that.

24 **Q. And then with respect to the defensive strategy,**
25 **is there an objective for that?**

1 A. Yeah. Well, as counsel pointed out, if you can
2 use a defensive strategy to accomplish some similar
3 objectives as offensive and lower the risk, that's a
4 good thing. But a defensive strategy usually is used
5 when an offensive strategy has failed or it's not
6 possible because you don't have the resources and you
7 can accomplish the same objectives.

8 Defensive strategy also lowers risk by doing
9 things like getting cooling water in place or doing
10 spill control remote, outside of the footprint of the
11 hot zone to try to minimize the impact of the spill or
12 the fire.

13 **Q. So if you're responding to an incident in a**
14 **heavily populated area and you had your choice, let's**
15 **just say you could successfully implement an offensive**
16 **strategy or a defensive strategy, which would you pick?**

17 A. Well, offensive. I couldn't wake up the next
18 day knowing that I didn't do my best to try to save
19 lives and protect property. That's what we get paid to
20 do.

21 **Q. So in that situation of an incident in a heavily**
22 **populated area, would you say that the defensive**
23 **strategy is better than the offensive strategy?**

24 A. Well, it might be the only option.

25 **Q. It might be the only option, but in my**

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1 hypothetical --

2 A. A defensive strategy, it may not provide the
3 best outcome.

4 **Q. Why?**

5 A. Well, in the example that I used in Spokane, to
6 simply sit there and watch a town burn down, that's a
7 losing strategy, isn't it?

8 MR. POTTER: That's all I have. Thank you,
9 sir.

10 JUDGE NOBLE: Mr. Odle, do you have any
11 cross-examination?

12 MR. ODLE: I don't, Your Honor.

13 JUDGE NOBLE: Council questions.

14 Mr. Paulson?

15 MR. PAULSON: Mr. Hildebrand, thank you for
16 your testimony today.

17 I am curious about the probability issues
18 that you talked about. What kind of railcars were in
19 the Mosier incident?

20 THE WITNESS: Those were 32s.

21 MR. PAULSON: Okay. How fast was that train
22 going?

23 THE WITNESS: From the FRA report I read and
24 what I heard from Chief Appleton, it's 25 miles an hour.

25 MR. PAULSON: Okay. What caused those cars

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1 to continue on even though they had come off the rails?
2 Is that speed and momentum?

3 THE WITNESS: Speed and momentum, and they
4 didn't hit any obstructions.

5 MR. PAULSON: Okay. So the types of
6 probabilities or issues of probabilities that we're
7 dealing with at least in some measure relate to the type
8 of railcar, speed of the locomotive -- rather of the
9 train as well as guardrails for instance at the entrance
10 into the Port of Vancouver.

11 THE WITNESS: Can you phrase that as a
12 question?

13 MR. PAULSON: Let me ask you this.

14 Does the probability of an event lessen with
15 newer railcars, slower speeds and guardrails?

16 THE WITNESS: I would say yeah, those are --
17 any safety feature precaution that you put in place, it
18 lowers the probability.

19 MR. PAULSON: Okay. No other questions.
20 Thank you.

21 JUDGE NOBLE: Any other questions to my
22 right?

23 Mr. Shafer?

24 MR. SHAFER: Mr. Hildebrand, thank you very
25 much for your testimony today. I have one question.

HILDEBRAND

1 This is in reference to the illustration on the
2 fireball, which is terribly impressive, emphasis on the
3 word "terrible." I would say from a layman's point of
4 view, it would appear that there's a possibility with a
5 fireball of that magnitude that that could carry on to
6 the following trains from train to train to train, but I
7 don't know on that.

8 And so I'm just curious, what's your
9 experience or maybe the results of other events? Is
10 that a possibility? Is it likely? Is it not likely
11 that the fire with such magnitude that it carry or pass
12 on from train car to train car?

13 THE WITNESS: I would say it's unlikely. If
14 what you're asking is if you had ten cars in a row and
15 one went up like that, would you then have the ninth,
16 eighth and seventh car go up like a firecracker effect?

17 MR. SHAFER: Yes, exactly.

18 THE WITNESS: I would say no.

19 MR. SHAFER: Okay. Thank you.

20 JUDGE NOBLE: Mr. Snodgrass?

21 MR. SNODGRASS: Good afternoon.

22 THE WITNESS: I can hear you.

23 MR. SNODGRASS: A couple of questions in
24 follow-up to Mr. Shafer's fireball questions. You had
25 in your testimony some photographs and examples.

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1 My question is of the derailments and let's
2 say of the derailments and the list of 24 that we've
3 seen, of those that involved a fire, how many of those
4 had a fireball?

5 THE WITNESS: Two. Of those -- we've only
6 seen fireballs with the type of car, the car coming
7 apart like I showed you in the picture, we've only seen
8 that twice and that involved ethanol.

9 MR. SNODGRASS: Well, I believe that -- so
10 in the crude oils in no cases was there a fire -- a
11 large fire that extended, I think the example was --

12 THE WITNESS: Plenty of big fire, but as I
13 related to like the catastrophic failure where you saw
14 the energetic failure where you saw the car come apart
15 in two pieces and then the entire contents of the
16 container released and consumed in one gigantic fireball
17 650 feet in diameter, that type of energetic release has
18 only happened twice out of those 24 derailments, and
19 they both involved ethanol. As I stated earlier, I
20 don't know why.

21 Could it happen with crude? It probably
22 could happen, but we haven't seen it yet.

23 MR. SNODGRASS: I mean, you've looked at the
24 corridor in Vancouver, not just at the far eastern and
25 western ends but also throughout the area.

HILDEBRAND

1 Given the types of fires in the record, what
2 is any general thoughts or likelihood on those fires
3 absent preventative measures in time causing any of the
4 adjoining houses to catch on fire?

5 THE WITNESS: Well, it certainly is
6 possible.

7 MR. SNODGRASS: Okay.

8 THE WITNESS: If you're within an area where
9 the fire is burning and you have radiant heat exposure,
10 yeah, you could have structural fire. And then you can
11 also have, as we almost saw in Mosier, you can have wild
12 land fires that could start as a result of these fires
13 and spread to structures.

14 MR. SNODGRASS: Just --

15 THE WITNESS: If the wind would have been
16 blowing like it usually blows, that fire would have gone
17 right up the hill and into tis building. That's my
18 opinion.

19 MR. SNODGRASS: Thank you. That was one of
20 my other questions about fire going up a hill and you
21 liken that to the Mosier example.

22 Is that because of -- and that's a --
23 hillside conditions exist in many places, obviously,
24 throughout the rail corridor here. Is that because the
25 hill is close or is there typically wind patterns that

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1 might lead fire to go up a hill?

2 THE WITNESS: I don't have any expertise on
3 wild land fires, so I can't really answer that. It
4 would just be an opinion.

5 MR. SNODGRASS: Okay. Last question.

6 You mentioned that you hadn't seen dynamic
7 testing of the 117s. Is there dynamic testing available
8 for the 117s? And then, what is dynamic testing?

9 THE WITNESS: Well, in dynamic testing you
10 have the actual real vehicle or tank and you're doing
11 dynamic testing where you're putting product in it and
12 you're setting it on fire. Or you're actually running
13 it down the track and crashing it intentionally, and
14 then you're seeing what the results are.

15 MR. SNODGRASS: Has such testing been
16 conducted, do you know?

17 THE WITNESS: I'm not aware of it. Perhaps
18 it has been, but I'm not aware of it.

19 MR. SNODGRASS: Okay. Thank you.

20 JUDGE NOBLE: Any other questions to my
21 right? To my left?

22 Mr. Siemann?

23 MR. SIEMANN: Good morning.

24 THE WITNESS: Good morning, sir.

25 MR. SIEMANN: Thank you very much for being

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1 here. Just a couple questions.

2 First, in your testimony you mentioned fire
3 hydrants, I think, just in passing. And I was curious,
4 if a fire hydrant was present near the source of a fire,
5 could it provide the quantity of water sufficient to
6 play a defensive role in an accident?

7 THE WITNESS: Maybe and maybe not. You
8 know, that's a pretty broad question. It would depend
9 on what its flow capability was, you know, what your
10 residual pressure was or static pressure, how many
11 hydrants would be available.

12 MR. SIEMANN: In the examples in Spokane and
13 Vancouver where you did the tabletop exercise, were fire
14 hydrants considered in terms of water supply?

15 THE WITNESS: Yeah. There were hydrants in
16 those various locations. What I was not asked to do and
17 didn't do was any type of fire flow analysis.

18 MR. SIEMANN: Do you know if there are
19 standards around fire hydrants in water supply or is
20 that quite variable?

21 THE WITNESS: Sure, there are NFPA
22 standards -- (Court Reporter interruption.) NFPA,
23 National Fire Protection Association.

24 MR. SIEMANN: And I'm not sure if you know
25 this, but for areas outside the city center, are there

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1 areas that where an event could occur where there are no
2 hydrants but within the sort of city metro area, I
3 suppose, near homes?

4 THE WITNESS: I would imagine that there
5 would be. Most municipalities have some areas where
6 they don't have hydrants unless you're in a major metro
7 city.

8 MR. SIEMANN: Second topic of question is
9 guardrails. And again, you may not know this, but I'm
10 curious if you saw -- are there typically guardrails on
11 bridges, for example, in the elevated rail around
12 Vancouver and Spokane, are guardrails installed?

13 THE WITNESS: Well, as we heard from the
14 expert a day ago, that guardrails are installed at
15 switching locations, bridges and wherever the railroad
16 feels that there's a greater risk of a derailment.

17 MR. SIEMANN: So that's likely the case.
18 Okay.

19 And then finally, you mentioned the chlorine
20 cars are built to be bullet proof, yet they have
21 actually been punctured; is that correct?

22 THE WITNESS: Yeah. There have been
23 incidents where chlorine cars have been involved in
24 derailments. The one that comes to mind is Youngstown,
25 Ohio, where they had -- a train was intentionally

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1 derailed, sabotaged, and around 6:00 a.m. they had a
2 plume that was like three miles. It was up in the air
3 and then the wind laid down and it laid down and went
4 out across. There were fatalities involved in that, if
5 I recall.

6 MR. SIEMANN: And can you just -- I don't
7 know if you can describe this, but I'm curious about the
8 difference in design of a chlorine car from 117 car just
9 in terms of the structural protections.

10 THE WITNESS: Well, I'm not an expert on
11 railcar design. I do know that chlorine cars are built
12 to a very high standard because they're hauling poison.

13 MR. SIEMANN: Thank you.

14 THE WITNESS: That would be a Mr. Chipkevich
15 question.

16 MR. SIEMANN: I missed that one. Thanks
17 very much.

18 THE WITNESS: You're welcome, sir.

19 JUDGE NOBLE: Any other questions to my
20 left?

21 Mr. Moss?

22 MR. MOSS: Good morning. I think I got this
23 right. I really wanted to check my notes more than
24 anything else.

25 But earlier in your testimony I believe you

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1 testified to the effect that because, at least in part
2 because there's relatively little direct experience with
3 HAZMAT incidents that there's sort of a three-phase
4 preparation and planning approach starting with the
5 tabletop, moving on to a functional, and then doing a
6 full-scale exercise every few years. Is that about
7 right?

8 THE WITNESS: Yeah. Generally we would
9 plan, train and exercise. And exercise is typically go
10 from the simple to the complex, because to start with
11 the complex usually results in failure and that's never
12 good for morale. So we want to make sure by the time we
13 get to a full-scale exercise we're pretty sure that we
14 can execute. We're going to make some mistakes and
15 learn from that, but it's going to be successful.

16 MR. MOSS: So you're learning more at each
17 step of this three-step process and --

18 THE WITNESS: That's right.

19 MR. MOSS: -- becoming more sophisticated in
20 your response capability?

21 THE WITNESS: And building relationships.

22 MR. MOSS: Thank you very much.

23 THE WITNESS: You're welcome.

24 JUDGE NOBLE: Anything further? Questions
25 based on council questions?

1 Mr. Kisielius?

2 MR. KISIELIUS: None, Your Honor.

3 JUDGE NOBLE: Mr. Potter?

4 MR. POTTER: Just a couple.

5 REDIRECT-EXAMINATION

6 BY MR. POTTER:

7 Q. On the issue of a transfer of fire from car to
8 car, taking the Mosier incident as an example, is it
9 correct that in that event that one car failed in the
10 derailment? Start with that question, initially one car
11 failed?

12 A. Yes. The puncture started the process and then
13 it spread from car to car to car. So I think the
14 council question was would it go boom-boom-boom-boom?
15 No. But one car that is breached can lead to other cars
16 that are breached, especially when they're stacked.
17 What you saw in Mosier, if I laid a link of sausages on
18 the table, that's sort of the way it looked.

19 Q. Sort of lineal?

20 A. Yeah. If I took a whole link of sausages and
21 dropped them from the air and they just kind of
22 haystacked, those fires are difficult to get to because
23 you're dealing with a three-dimensional problem.

24 Q. So even though the dynamic isn't boom-boom-boom,
25 fires do spread from car to car?

1 A. Fire, fire-to-fire, not boom-boom-boom.

2 Q. And for lay people, the difference between -- we
3 talked about a fireball, even Chief Appleton talked
4 about a fireball and sort of the big billowing ball of
5 fire that we see in the Mosier video.

6 What you're saying is technically that is not a
7 fireball?

8 A. I'm sure to the chief that was a pretty big
9 fireball, but in terms of the energetic release, that's
10 not what we saw.

11 Q. And the energetic release you've described is
12 where the car comes apart in two pieces?

13 A. Yes.

14 Q. Okay. But what we -- and that's happened twice,
15 to your knowledge?

16 A. Yes.

17 Q. Describe the heat-induced tear and what that can
18 produce.

19 A. Well, if you shook up a soda can and put a knife
20 in it and put a 3-inch gash in it, we've all experienced
21 some catastrophe like that in the kitchen and what a
22 mess that makes.

23 So you just have a large container, and the high
24 temperature that's causing the steel to relax and get
25 weaker, while the temperature on the inside, you have

1 the increase in pressure, and it just pops. And so now,
2 unlike the bottom or top outlet where you have the small
3 orifice, small opening with product leaking out and
4 burning, now you have a big opening with a lot of fuel
5 that's burning.

6 So you have an increased temperature in radiant
7 heat. The more tanks you have burning, the more risk
8 that you have that the tanks next to them are also going
9 to fail at some point in time.

10 **Q. Is the risk of a heat-induced tear a large**
11 **amount of fuel escaping at once and catching fire?**

12 A. Yeah, it's pretty impressive.

13 **Q. Just on guardrails, do you know how many**
14 **preexisting railroad bridges have guardrails installed**
15 **on them?**

16 A. No, I'm not a track expert.

17 **Q. You don't know what percentage of that feature?**

18 A. No, that's a Mr. Chipkevich question.

19 MR. POTTER: Okay. Thank you. That's all I
20 have.

21 JUDGE NOBLE: Thank you very much.

22 Mr. Hildebrand, that concludes your
23 testimony. Thank you very much for that and you are
24 excused as a witness.

25 THE WITNESS: Thank you, Your Honor.

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1 JUDGE NOBLE: It's now is 11:39, so we could
2 get started with the next witness. We still have
3 20 minutes, probably a good idea to do that.

4 MS. DRUMMOND: The City of Vancouver is
5 calling Mr. Blackburn to the stand.

6 ROBERT BLACKBURN,
7 having been first duly sworn, testified as follows:

DIRECT EXAMINATION

8
9 BY MS. DRUMMOND:

10 **Q. Mr. Blackburn, can you state your name for the**
11 **record.**

12 A. Robert J. Blackburn.

13 **Q. And can you state your place of employment and**
14 **title.**

15 A. Yes. I'm the managing principal of Blackburn
16 Group.

17 **Q. And what's your title there and what does**
18 **Blackburn Group do?**

19 A. I'm the managing principal of the Blackburn
20 Group. I own Blackburn Group. Blackburn Group is a
21 company that I founded 25 years ago to help the risk
22 management, insurance and claim industries measure
23 enterprise risk and help to settle claims.

24 **Q. Can you tell me a little bit about your**
25 **educational background, any committees that you've**

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1 served on, your work in this area?

2 A. Sure. I'm a graduate of St. John Fisher College
3 with a degree in -- dual degrees in finance and
4 economics and applied economics -- (Court Reporter
5 interruption.) Applied economics.

6 And beyond that, I'm a chartered property and
7 casualty underwriter. Additionally, I have
8 certifications in brokering, licensing, and
9 certifications in brokering, property and casualty
10 broker with a primary resident license in New York.
11 Also a license for independent adjusting, general
12 adjusting, resident license in New York, and a life and
13 health broker resident license in New York. All of
14 those licenses are reciprocal in all 50 states.

15 **Q. Have you written about the topic of insurance?**

16 A. Yes, I have. Not so much recently, but more to
17 the -- I guess, in the last 20 years I've had a number
18 of pamphlets and presentations and have written about
19 enterprise risk and claims in the worldwide risk
20 management industry.

21 **Q. And I think you identified those in the**
22 **testimony that you've submitted?**

23 A. Yes. I've listed all of those in the prefilled
24 testimony.

25 **Q. Have you dealt with financial risk profiles for**

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1 regional energy projects?

2 A. Yes. There's several that come to mind. The
3 two biggest that we've worked on involve Rochester Gas
4 and Electric in Rochester, New York. They are a
5 multi-tiered, multi-faceted energy company supplying
6 energy to the upstate New York area and to the grid,
7 Northeast U.S. grid. They owned, at that time, they
8 don't any longer, but they owned at that time the Ginna
9 nuclear powerplant. Ginna is G-i-n-n-a.

10 And in our practice they had asked us to develop
11 a software program as an addition, a custom software
12 program, part of our RiskPro environment, RiskPro
13 software, to build a risk profiling structure to capture
14 all of the underwriting type of underwriting data, the
15 criteria, causes and conditions and so forth of
16 potential risk, as well as to develop a claim management
17 software component that would capture and manage claims
18 that they had on a day-to-day basis, as well as to
19 practice, if you will, for claims that prospectively
20 could occur.

21 So that profiling effort had been -- has been in
22 existence for almost all of the 25 years. They've
23 decommissioned the part of the Ginna nuclear powerplant
24 as part of that risk profiling effort, but that was one
25 instance of profiling that we've done.

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1 Another involves the National Fuel Gas Company
2 headquartered in Buffalo, New York, and that
3 infrastructure has been profiled from the connections
4 into the TransAtlantic, TransCanada pipelines down
5 through the Niagara Frontier of New York and then
6 further down connecting to the grid in the northeastern,
7 major northeastern cities, New York, Philadelphia, and
8 further south.

9 That profiling effort has been in existence for
10 almost 20 years. We continue to manage that. This
11 client uses that program daily in their program -- in
12 their risk management program. And they have a
13 continuous process of review of underwriting information
14 and details as well as a dynamic claim management
15 component to that. So always they're seeing the total
16 costs of risk in an entire energy system profile.

17 **Q. Did you look at maximum foreseeable loss in**
18 **those situations?**

19 A. Yes. Yes. That's the primary goal is to at
20 least understand and begin to play with some of the
21 criteria as an organization and an enterprise is
22 beginning to consider new parts of their organization
23 and growth in a continuously monitored enterprise risk
24 environment that's very often done. The underwriting
25 criteria is gathered for that new enterprise and part of

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1 the enterprise, and then claims are tempered and
2 included in that exercise.

3 **Q. So what is maximum foreseeable loss and how do**
4 **you go about figuring that out?**

5 A. Well, maximum foreseeable loss is an insurance
6 term that underwriters use to understand their exposures
7 in a worst-case scenario given a certain operation. So
8 they're looking at all of the casualty, property and
9 casualty and life and health potentially -- potential
10 losses that could occur in that environment, in that
11 particular operation.

12 **Q. And so what type of data or what information do**
13 **you need and how do you go about putting that together?**

14 A. Well, you gather a lot of underwriting data,
15 obviously, and a lot of operational data of the
16 organization. But lacking that, the underwriter will do
17 a marketplace review of information anywhere in the
18 worldwide marketplace.

19 They're looking for other underwriters that have
20 underwritten this type of risk. That's one factor. Any
21 studies that have been done, any reports that have been
22 prepared for potential exposures in any one type of
23 operation, any losses that may have occurred within
24 the -- that type of operation. That's probably a first
25 phase study that an underwriter would do without having

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1 any information available to them.

2 The second phase is probably the more detailed
3 phase which we help with, and that's the risk profiling.
4 That's the gathering of the underwriting information,
5 tempering that with expected and future claims, and then
6 identifying key exposures, key factors that need to be
7 managed as part of that process before the operation
8 goes into effect.

9 **Q. And were you asked to do that with respect to**
10 **this project on behalf of the City of Vancouver?**

11 A. Yes. The first phase only, though. We don't
12 have any information regarding the details of Tesoro
13 Savage's operation. To my understanding, that
14 information was unavailable and continues to be
15 unavailable.

16 So again, taking that first step, what we did in
17 the Phase 1 study, effectively we went and we looked at
18 all of the possible information that was available for
19 oil transported by rail in the U.S. and around the world
20 and had come up with our opinions, at least at this
21 point, for creating a rough estimate and a framework for
22 the potential MFL.

23 **Q. So were there certain documents or agency**
24 **documents that you considered?**

25 A. Yes. We did some research in the

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1 U.S. Department of Transportation files and found two
2 reports and hearings. One is we believe a draft report,
3 but it was a most recent report in 2014, I believe,
4 where a \$6 billion potential exposure was raised in that
5 report. And they spoke about the most recent 2013
6 Lac-Megantic incident, which was quite near by us. It's
7 not right next to us, but it's up in Quebec, and it's
8 fairly close to us and we understand that area really
9 well with clients in Montreal. That identification was
10 that if there was -- if it was a Lac-Megantic type of
11 incident and placed in other areas of high concentration
12 of value and risk, that that could be five times the
13 event value -- (Court Reporter interruption.) The
14 event, the occurrence, the event value.

15 **Q. So what was the number that they used --**

16 A. Well, 2 billion is just a marketplace estimate
17 at this point in the way of the potential final losses
18 for that, either taken by the insured, the railroads, or
19 the Province of Quebec, and so do the math. It could be
20 as much as, at least the DOT report is saying,
21 \$10 billion. So that gives you a backdrop and a
22 framework I think for other issues around the country,
23 other risk profiles around the country that would fit
24 into that sort of framework.

25 MS. DRUMMOND: And just for the record, the

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1 document being referred to is Exhibit 3058, Page 42, and
2 it has already been admitted.

3 BY MS. DRUMMOND:

4 Q. Did you take a look at Mr. Chipkevich's
5 testimony --

6 A. Yes.

7 Q. -- on accidents that have actually occurred?

8 A. Yes, I did.

9 Q. And he documented -- he had a table in which he
10 documented those accidents?

11 A. Yes.

12 MS. DRUMMOND: Ms. Mastro, if you could pull
13 up Exhibit 3122.

14 BY MS. DRUMMOND:

15 Q. And in addition to looking at that, did you look
16 at what's been reported as having occurred around the
17 country through the media?

18 A. Could you restate that? I did look at that
19 report. Those accidents were listed on the report were
20 reviewed.

21 Q. Did you consider what's being reported as having
22 occurred?

23 A. Yes.

24 Q. Yeah. Okay.

25 MS. DRUMMOND: 3122.

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1 MS. MASTRO: It has not yet been admitted.

2 MS. DRUMMOND: Right.

3 MR. POTTER: The objection was withdrawn on
4 3122, wasn't it?

5 JUDGE NOBLE: It was not withdrawn yet.

6 MR. BARTZ: It's not been admitted. We
7 withdrew the objection this morning.

8 MS. DRUMMOND: Okay. Okay. So --

9 JUDGE NOBLE: The objection has been
10 withdrawn to 3122 from the Port?

11 MR. DERR: I'm sorry. That's correct.

12 JUDGE NOBLE: All right. Exhibit 3122 will
13 be admitted.

14 MR. DERR: It wasn't our objection.

15 JUDGE NOBLE: My notes said it was a Port
16 objection. So does anyone else have an objection?

17 MR. DERR: The applicant didn't have an
18 objection and still doesn't have an objection.

19 JUDGE NOBLE: All right. Progress. So 3122
20 is admitted.

21 BY MS. DRUMMOND:

22 Q. Okay. So 3122 has just been posted. And since
23 you can't see the screen from where you are, I'll hand
24 that to you.

25 MS. DRUMMOND: Ms. Mastro, if you can just

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1 scroll through those very briefly. We're not going to
2 spend much time on any of these.

3 THE WITNESS: Yes. Yes, I do remember
4 these.

5 BY MS. DRUMMOND:

6 Q. And so Mr. Blackburn, what are these, sir? Can
7 you briefly describe --

8 A. So these are oil-by-rail incident scenes.

9 Q. Okay. So you look at what's been happening in
10 the past history with regard to this type of product and
11 its use in pulling together an MFL?

12 A. Yes. That certainly informs the picture.
13 There's a measurement that needs to occur typically in a
14 full MFL where the underwriting, the details of the
15 operation have to be described, and then potential
16 values have to be applied to be able to understand what
17 the ultimate consequences are in the event of a loss.

18 Q. Okay.

19 MS. DRUMMOND: Ms. Mastro, if you could go
20 to Page 9 of that exhibit.

21 MS. MASTRO: There's only seven.

22 MS. DRUMMOND: Oh, there's seven. Actually,
23 it should be the third -- no, not the last one. I think
24 it's the second to last one.

25 THE WITNESS: Lac-Megantic Photograph 2?

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1 MS. DRUMMOND: Yeah. Not that one.

2 BY MS. DRUMMOND:

3 Q. Mr. Blackburn, could you read the number on the
4 bottom of that page?

5 A. Yes. It's EX 3122-0010VAN.

6 Q. So it would be Page 10.

7 MS. MASTRO: I'm sorry, Ms. Drummond.

8 There's only seven pages in this exhibit.

9 MS. DRUMMOND: That's odd.

10 MS. MASTRO: Ms. Drummond, if you give us a
11 minute, we'll scan it and put it in.

12 MS. DRUMMOND: We can move on. I was going
13 to pull up another video, but we'll come back to that.

14 THE WITNESS: Okay.

15 BY MS. DRUMMOND:

16 Q. There's another exhibit that has already been
17 admitted, 3120. This is an excerpt from a BNSF
18 PowerPoint.

19 Did that also inform your understanding of what
20 you were looking at?

21 A. Yes. The PowerPoint that described the
22 billion-dollar potential exposure?

23 Q. Yes. I'll provide you a copy of that.

24 JUDGE NOBLE: What was the number again?

25 THE WITNESS: One billion dollars.

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1 MS. DRUMMOND: On the pictures? 3122.

2 JUDGE NOBLE: I mean that you just handed
3 the witness.

4 MS. DRUMMOND: Oh, I apologize. The number
5 is 3120 on that.

6 JUDGE NOBLE: Thank you.

7 THE WITNESS: To answer your question, yes,
8 I have seen this. It has informed us in terms of the
9 MFL. It's also informed us about what the capacity is
10 for -- from the insurance marketplace for covering risk,
11 meeting a portion of the MFL. And that is approximately
12 correct. I think there's a billion to a billion and a
13 half available per occurrence for each insured related
14 to events.

15 BY MS. DRUMMOND:

16 **Q. So you're saying a marketplace limitation in**
17 **terms of going beyond that?**

18 A. Yes.

19 **Q. Is that a concern of the railroad's?**

20 A. I think it is, yeah. I think to some degree it
21 is. You know, when the USDOT study or report and the
22 information from that hearing was made available to the
23 marketplace. And I think there is a concern on the part
24 of the railroads that they don't have adequate limits.
25 And I think that's been expressed in their testimony at

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1 USDOT.

2 **Q. Okay.**

3 MS. DRUMMOND: Ms. Mastro, can we pull up
4 3024?

5 MR. DERR: Your Honor, this exhibit has not
6 been admitted. And we have an outstanding objection on
7 videos that we don't know who prepared them or what they
8 contain.

9 JUDGE NOBLE: I understand. And you're
10 right, it hasn't been admitted yet, so you'll have to
11 lay a foundation for this, if you can.

12 MS. DRUMMOND: Okay.

13 BY MS. DRUMMOND:

14 **Q. This video right here, can you just briefly**
15 **describe what that is? It's the Lac-Megantic video that**
16 **should be up there.**

17 MR. DERR: Your Honor, is the attorney going
18 to testify to foundation or is the witness going to
19 testify to foundation?

20 MS. DRUMMOND: I'm not sure if the video is
21 up quite yet.

22 MR. DERR: But she's explaining what the
23 contents of the video are.

24 JUDGE NOBLE: Well, she is identifying it,
25 so I don't think she intends to testify about it. And

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1 I'm sure she knows how to lay a foundation. There's
2 nothing up on the screen.

3 MS. DRUMMOND: I don't have a picture of the
4 video, but it's --

5 THE WITNESS: I have some papers here.

6 MS. DRUMMOND: I think it's difficult for
7 him to describe what the video is without actually --

8 JUDGE NOBLE: The name that we have for the
9 exhibit is Fire Protection Assessment Report. This is
10 3124; right?

11 MS. DRUMMOND: No, this one is 3024.

12 JUDGE NOBLE: All right. The name of that
13 one is Lac-Megantic Train Explosion Video. And the Port
14 and Tesoro Savage have objections.

15 MS. DRUMMOND: This is the Lac-Megantic
16 video. That's how it is labeled.

17 BY MS. DRUMMOND:

18 **Q. Have you looked at this video?**

19 A. Not yet.

20 **Q. I mean have you looked at it in preparing your**
21 **testimony that you've looked at this video?**

22 A. Yes.

23 **Q. Okay. And is this -- do you use it like you**
24 **would use photographs in terms of understanding --**

25 A. Oh, yes. Yes. I think it's a more dynamic

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1 human response. You get a lot more response, I think,
2 with a video than you do a picture.

3 MS. DRUMMOND: Okay. So that's what that
4 exhibit is, Number 3024, and it is being used in the
5 exact same manner as the photographs.

6 MR. DERR: Your Honor, we retain our
7 objection. That does not sound like a foundation for
8 the accuracy of the video. It sounds like what he used
9 it for.

10 MS. DRUMMOND: And let me clarify, we're not
11 admitting this for its accuracy. That's not the purpose
12 of this admission. We are seeking to admit it because
13 this is what is being -- for the same reason that other
14 videos have been put in, that this is what is actually
15 occurring, that's what the press is occurring as having
16 happened. And it's one of the items that -- I mean you
17 would review what's going on and being reported by the
18 press.

19 JUDGE NOBLE: Let me ask a question.
20 Are you offering this under Evidence
21 Rule 703 as a basis for this expert's opinion?

22 MS. DRUMMOND: It has helped inform his
23 opinion, yes.

24 JUDGE NOBLE: He hasn't said that yet,
25 though. So do you want to ask some more questions to

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1 lay this foundation?

2 MR. BARTZ: Excuse me, Your Honor. I'm
3 going to object to the line of questioning and any more
4 effort by the City to introduce this exhibit. They've
5 already explained why they want it. They want it to get
6 everybody excited. And it's got audio on it that
7 shouldn't be there. It's just not helpful.

8 He wasn't there. He can't tell us if it was
9 an actual -- accurate thing. So this exhibit just ought
10 to be left out. We've got a lot of flames already in
11 here. We've been very liberal about allowing a lot of
12 that stuff to go on. This isn't necessary and it
13 doesn't help the process. It's irrelevant.

14 MR. DERR: Your Honor, if I might add, it
15 also appears to have been edited so that there's a loop
16 to repeat the effect solely for the purpose of eliciting
17 an emotional response. And for that reason we maintain
18 our objection.

19 MS. DRUMMOND: And again, this is being
20 admitted because this is what is being reported as going
21 on. This is something you have to assess is logical to
22 read in the papers, in the media, in terms of the events
23 that are actually going on in terms of informing what
24 actually could happen and informing an MFL, and that is
25 why it is being introduced. We certainly do not need to

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1 show the entire video, and we don't need the sound
2 associated with it.

3 JUDGE NOBLE: Well, as I understand your
4 offer, you are offering this as a basis for this
5 expert's opinion, although I don't think he's said that
6 yet.

7 Let me just ask the witness: Is this a
8 video a basis for your opinion in this matter?

9 THE WITNESS: What I can state, Your Honor,
10 is that all information, this being one part, is
11 utilized by underwriters for informing opinions about
12 the MFL. So yes, I would say any and all data that's in
13 the marketplace that should be gathered in a Phase 1
14 information assessment when an underwriting occurs will
15 be gathered. So this would be gathered.

16 JUDGE NOBLE: Thank you.

17 I'm going to sustain the objection. I don't
18 think there's been sufficient foundation laid for this,
19 and I also think that the video is most likely overly
20 inflammatory in this circumstance and does not appear to
21 have been a specific -- or a basis for specific opinions
22 that this witness is offering today about insurance. So
23 I'm sustaining the objection.

24 MS. DRUMMOND: Okay.

25 JUDGE NOBLE: Just a minute, I have to get

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1 the number right. Exhibit 3024 is not admitted.

2 BY MS. DRUMMOND:

3 **Q. So is it your understanding that the City has**
4 **requested disclosure of a net assets insurance and a**
5 **bonding from the applicant through the discovery**
6 **process?**

7 A. Yes.

8 MS. DRUMMOND: And for the record, these --
9 the discovery has been put into the record and they are
10 admitted. The numbers on those exhibits are 3046, 3047,
11 3048 and 3049.

12 BY MS. DRUMMOND:

13 **Q. Did you review the response that the applicant**
14 **had provided?**

15 A. Yes, I did. There was a letter received by the
16 applicant's counsel that was sent to Mr. Potter, and all
17 information was denied.

18 **Q. So to restate that, you didn't --**

19 A. That there was no information. The request was
20 made and no information was provided.

21 **Q. Although the City had requested --**

22 A. Correct.

23 **Q. -- all of that net asset -- (Court reporter**
24 **interruption.)**

25 A. Of course. Sorry.

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1 Q. -- had requested information on net assets for
2 the applicant, their insurance, their bonding,
3 et cetera?

4 A. Yes.

5 Q. Did you listen to Ms. Hollingsed's testimony on
6 insurance issues?

7 A. I did briefly when I arrived yesterday.

8 Q. And did that testimony assure you that if there
9 isn't an MFL, that the applicant, not the public, but
10 the applicant will cover the costs associated with that?

11 A. I didn't have any assurance of that at all.
12 There was a reference made to the minimum insurance
13 required. There was quite a bit of testimony related to
14 that. There was offers of providing more insurance
15 beyond the minimums, but that was an offer. There
16 wasn't any commitment, you know, any written commitment
17 prior to her testimony.

18 And I don't believe they've gone through a
19 rigorous enough process of underwriting -- going through
20 an underwriting process that would give them any sort of
21 measurement of what a maximum foreseeable loss could
22 look like related to this operation and considering the
23 bigger risk profile of the operation, the economic
24 engine of this operation being a linchpin of activity
25 from the source of the oil to the terminal and then

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1 shift out to -- you know, on tankers.

2 **Q. So what's the maximum foreseeable loss that the**
3 **applicant should have looked at, in your view?**

4 A. Well, the starting point I think is the
5 framework that I mentioned previously in the testimony.
6 I mean, I think they need to put together a credible
7 risk map, if you will, for the risk profile from when
8 the oil by rail enters the state at the eastern border
9 all the way to the terminal, and then the unloading --
10 the storing and unloading to the tanker and then the
11 tanker exposure from there out into the Pacific.

12 **Q. And what do you mean by a "risk profile"?**

13 A. Well, the entire risk profile being the
14 consequences, the -- even though there's a small
15 probability of events occurring anywhere along the way,
16 which I think they have provided in other testimony,
17 however, there hasn't been any values associated with
18 that, that analysis. So the consequences of the
19 probable events occurring haven't been measured in any
20 sort of way that I've seen.

21 **Q. So to pull together this type of MFL analysis,**
22 **how do you look at what's valuable in terms of -- you**
23 **focus on consequences, so what are you actually looking**
24 **at on the ground?**

25 A. Well, Mr. Hildebrand did a very good job this

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1 morning I think in beginning to enlighten us about what
2 the potential exposures are at certain points where
3 there was a high concentration of persons, of
4 casualties, potentially, as well as property loss, so
5 the valuations should be around those key points of high
6 value. And I think that's where we start in our
7 analysis and then we work from there.

8 **Q. So you look at, for example, population density?**

9 A. Yes.

10 **Q. You look at --**

11 A. Property values.

12 **Q. -- property values.**

13 A. Business, economic value for the purpose of
14 business interruption.

15 **Q. And environmental value?**

16 A. Environmental value. Terrorism, where are there
17 possible terrorism exposures. Workers' compensation
18 exposures, concentrations of employees at the terminal
19 that would be working there in the event of a loss.

20 So there's a number of different analyses that
21 you go through at those high risk points that
22 Mr. Hildebrand began to expose this morning.

23 JUDGE NOBLE: Ms. Drummond, I'm sorry to
24 interrupt your train of thought and that of the
25 witness's, but it is now past noontime and it's almost

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1 12:15, and I think that we need to break.

2 I imagine that you have several more
3 questions; is that right?

4 MS. DRUMMOND: Probably about 15 minutes,
5 yes, Your Honor.

6 JUDGE NOBLE: All right. Let's break now
7 and give you a chance to have lunch and give our court
8 reporter a break. We're already past noontime. Sorry
9 to break in the middle of your testimony. We are off
10 the record until 1:15.

11 (Lunch break.)

12 JUDGE NOBLE: We're back on the record.

13 Before, Ms. Drummond, you proceed with the
14 rest of your examination of Mr. Blackburn, I just want
15 to remind everyone that we are cancelling the Friday
16 session this week because there's only one witness
17 scheduled, so it would be more efficient to take that
18 witness on another day.

19 All right, Ms. Drummond. Please proceed.

20 MS. DRUMMOND: Thank you, Your Honor.

21 BY MS. DRUMMOND:

22 **Q. Welcome back, Mr. Blackburn.**

23 **A. Thank you.**

24 **Q. So on Page 6 of your testimony you provided an**
25 **estimate of an MFL for a catastrophic accident in the**

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1 region, a rough estimate. What was that number?

2 A. That was 5- to \$6 billion.

3 **Q. And how did you come to that?**

4 A. Well, from our preliminary Phase 1 analysis, we
5 gathered all the information from the marketplace. Two
6 key pieces of information was the latest USDOT report
7 where they talked about oil-by-rail incidents
8 potentially reaching a \$6 billion mark for catastrophic
9 losses.

10 We then took an analysis of the marketplace loss
11 information, and that informed us with losses in the
12 neighborhood of \$2- to 3 billion in the last ten years
13 or so, of two very significant losses, one Lac-Megantic,
14 the other one the England loss, Hertfordshire, England.
15 And that helped to inform us related to this exposure.

16 Again, I have to say it's a rough estimate.
17 It's a starting point to begin a discussion about what
18 the MFL will look like in this particular instance. So
19 that's the rationale for providing that number.

20 **Q. So you said this was a very rough number and**
21 **that more analysis is required. What would that**
22 **analysis entail?**

23 A. Well, it would entail a view of the entire risk
24 profile from what economic activity is being considered
25 in the region, in my belief. We've typically done this

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1 with other clients, with other insured, with states and
2 local governments where we look at the potential
3 exposure to -- for an operation to loss, exposure to
4 loss for an operation. And I believe that that's what
5 would be required here, a more refined view to put some
6 detail in the picture to temper that \$6 billion number.

7 **Q. So you would need, and I think this goes back to**
8 **your testimony earlier this morning, you would need like**
9 **property values?**

10 A. We would need property values. That would be
11 one part of the picture, and extended property values,
12 valuations which may include fixed assets, you know,
13 hard assets, as well as soft assets of economic value,
14 economic disruption, business interruption and all of
15 those parts of the property picture.

16 Additionally, we'd want to understand the
17 population densities along the routes of the oil track
18 to the terminal and really understand what the
19 potential -- make some assumptions about what the
20 potential for loss of life would be in the event of a
21 catastrophic incident.

22 **Q. And would you look at ecological values as well?**

23 A. We would. That may be part of a property
24 analysis, but it doesn't necessarily need to be. It
25 could be separate from that where the environment would

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1 be looked at, reviewed in terms of its value and puts
2 the potential for cleanup to restore the original
3 condition of that property. And perhaps it would never
4 be restored, so, you know, there would have to be a
5 review of that and an understanding of that I think in
6 this analysis.

7 **Q. So you've looked at I believe application**
8 **materials on what is being provided. You've listened to**
9 **Ms. Hollingsed's testimony.**

10 **Had the applicant done -- have they gone through**
11 **this exercise? Have they done an MFL analysis?**

12 A. No, not to my understanding. I did listen to
13 her testimony. Briefly, she said she would be
14 completing some study that would bring up to date a
15 previous study. So it would be interesting to see if
16 that study overlays with what I've just said and how
17 that would be done.

18 **Q. So we haven't seen this study?**

19 A. No.

20 **Q. I believe she referred to the study as a Black**
21 **Swan study?**

22 A. Yes. That's a term that is bantered about the
23 industry, but I don't think in this particular instance
24 it's appropriate. A Black Swan event is one in which
25 really can't be predicted, and there's more than one

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1 condition and cause that creates a catastrophic event in
2 a particular region or the world, you know. So it's a
3 very significant, unmeasurable risk in a profile.

4 And I think this is very measurable. I think we
5 know -- we just haven't done the work here to see what
6 the values are and really be able to begin to aggregate
7 those values in a loss scenario.

8 **Q. And in your opinion, would it be advisable to do**
9 **that MFL analysis?**

10 A. Oh, yes, I believe so. That would be very
11 prudent and important for their enterprise and for
12 communicating to everyone else.

13 **Q. Now, the applicant has provided some**
14 **information. They've talked about agency requirements**
15 **and insurance that will ultimately be required, but have**
16 **they provided specific amounts on all of that?**

17 A. Yes, they did, but very minimal amounts of
18 insurance. I'll refer to my testimony on Page 13 where
19 the question is asked regarding the -- it's related to
20 the insurances and bonding. And the document that I
21 reviewed only provided for very limited property
22 insurance or insurance of a million dollars and
23 5 percent of the value per location; liability insurance
24 of 10 million per occurrence, 15 million aggregate;
25 automobile liability, a million dollars, which is

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1 probably insignificant for this risk profile; and on
2 pollution/legal liability of 25 million. Very minimal
3 limits.

4 **Q. So nothing that would approach providing --**

5 A. Nothing that would be prudent for covering the
6 risks of this operation.

7 **Q. There's been a lot of statistical analysis done**
8 **on what's the precise risk percentage of an accident.**
9 **And let's assume for purposes of this question that it**
10 **is in fact possible to get that percentage.**

11 **If you can get that risk percentage, is that**
12 **enough to understand the risk picture here?**

13 A. No, that's only half of the equation really,
14 because you have low frequency/high catastrophe type of
15 incidents occur. This is what I think we're talking
16 about.

17 I don't think we're talking about the high
18 frequency/low value events -- low consequence events.
19 Those are sort of considered within the normal
20 day-to-day operation and that's not what we're really
21 considering here. Although that should be part of the
22 picture, it wouldn't be the most important part of the
23 picture.

24 I think the important part of the picture is to
25 really measure even in a low probability, which I think

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1 your question relates to, you know, what's the value
2 associated with that low probability event, and then
3 begin to model that out for expected risk costs.

4 **Q. Liability and insurance have been described**
5 **throughout this proceeding as very straightforward and**
6 **compartmentalized. You have the company which has the**
7 **oil, provides it to another company which transport it,**
8 **that gets sent to the shell LLC which handles it, and**
9 **then that's transferred to another company to ship, and**
10 **if there's an accident at any point, precisely where the**
11 **liability is and how it's all going to work, is that**
12 **reality?**

13 A. No, I don't believe it is. I think that each
14 and every one of those organizations and enterprises
15 should have insurance. That's a good thing.

16 The most difficult thing about that is that
17 being fragmented, there's typically a -- in a large loss
18 there's a reservation of rights from all the insurers at
19 that point for continued investigation to determine who
20 is responsible for what. So it tends to be a
21 third-party kind of reimbursement, if you will.

22 There isn't any first party who is going to pay
23 now in the event of a cleanup and continue to pay in the
24 event of a cleanup and continue to fund that cleanup
25 through the course of the full cleanup. And then you

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1 can talk about the damages later.

2 And we're still talking about damages with 9/11.
3 We're still talking about damages with Lac-Megantic.
4 We're talking about damages with a lot of these events
5 that have occurred and who has stepped up to bat to take
6 care of the financial responsibilities for the event.

7 And so I think what you have with this idea of
8 everybody's responsible for their own part, that's fine
9 and that may be true later when everything is sorted
10 out, but I think there should be an individual
11 enterprise that has the responsibility for responding to
12 an event, to any event, and then funding that.

13 **Q. So in summary, it can take years to sort these**
14 **things out on liability and who bears accountability and**
15 **all of that?**

16 A. It could be decades.

17 **Q. Now, Ms. Hollingsed inferred in her testimony**
18 **that her company would step right up to the plate and we**
19 **wouldn't have that scenario. What are your thoughts on**
20 **that?**

21 A. Well, I'm not sure that's reality. I mean,
22 that's a nice thought and that's probably a good
23 intention and I think it's good. It's helpful to say
24 that; I think it's very helpful to say that. But I
25 don't think that's the reality of the situation.

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1 She may not be in the position at that point,
2 even though it's her job and it's her intention to make
3 sure that the claims are paid and the cleanup occurs,
4 that she may not have the resources to do that
5 individually, personally. So, you know, committing the
6 organization is something that possibly would not come
7 to fruition, so I would think that there should be some
8 additional guarantees there.

9 **Q. Is it your opinion that the applicant has met**
10 **its burden to demonstrate -- (Court Reporter**
11 **interruption.) I'm sorry.**

12 **Is it your opinion that from a purely financial**
13 **perspective that the applicant has met its burden to**
14 **demonstrate that if an MFL were to occur, that it has**
15 **financial assurances in place?**

16 MR. DERR: Objection. Calls for a legal
17 conclusion left to the EFSEC council.

18 BY MS. DRUMMOND:

19 **Q. Let me restate the question.**

20 **Has the applicant provided the facts to**
21 **demonstrate that they can fully address from a financial**
22 **perspective an MFL?**

23 A. No.

24 MS. DRUMMOND: Thank you. No further
25 questions.

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1 JUDGE NOBLE: Cross-examination?

2 CROSS-EXAMINATION

3 BY MR. DERR:

4 Q. Thank you, Mr. Blackburn. My name is Jay Derr
5 and I represent the applicant in this matter. And I'm
6 going to ask you just a few questions about a
7 combination of your prefiled testimony and your
8 testimony this morning.

9 A. Yes, sir.

10 Q. And after lunch.

11 First, I want to ask a few questions -- and I
12 should also say thank you for being polite. You can
13 look at me, but you really need to speak to council
14 because they're the ones that need to figure out and
15 understand what you're saying. I just facilitate the
16 process.

17 A. Okay. I'll try to look around.

18 Q. This setup is a little tricky. The other day we
19 sat over there so you didn't have to twist your neck.

20 A. I normally address people when they are talking
21 to me.

22 Q. I appreciate that. And I'll try to pause and
23 let you turn and address the council.

24 So first I want to understand a little bit more
25 about what you reviewed to prepare your testimony.

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1 For example, did you review the Washington state
2 regulations that set financial assurance requirements
3 for marine vessel transport of crude?

4 A. Very briefly that was shown to me, and I really
5 didn't see that in the context of this study, no. So it
6 was very late. I did review it yesterday.

7 **Q. Okay. And how about the new state regulations**
8 **that address financial responsibility for rail transport**
9 **of crude in the State of Washington?**

10 A. I believe I reviewed that yesterday briefly as
11 well.

12 **Q. So your at least your prefiled testimony was not**
13 **based on the analysis or assessment of worst-case**
14 **discharge that were the basis of those regulations?**

15 A. That's correct. That's correct.

16 **Q. Thank you.**

17 **On Page 5 of your prefiled testimony, and I**
18 **believe a couple times since, you describe starting with**
19 **a similar risk profile to evaluate a worst loss that is**
20 **likely to occur.**

21 **Is that a fair description of your testimony?**

22 A. That's a fair description, yes.

23 **Q. So I want to first ask you a couple questions.**

24 **I believe you testified today about experience**
25 **working with the nuclear power facility; is that**

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1 correct?

2 A. That's correct.

3 **Q. And also I heard pipeline, and I'm not sure if**
4 **it was a gas pipeline or oil pipeline.**

5 A. Gas pipeline.

6 **Q. Gas pipeline?**

7 A. Yes.

8 **Q. I'm curious. Do you view those two as the same**
9 **or similar risk for insurance purposes?**

10 A. No. They're different risk profiles, but the
11 approach is the same in every risk profile in building a
12 risk profile.

13 **Q. Excuse me. Go ahead.**

14 A. No. Just to explain further, every commodity,
15 every manufacturing operation, any sort of operation has
16 its own unique risk profile, its own unique stamp, if
17 you will, in the risk profile.

18 **Q. So would you use risks associated with nuclear**
19 **facilities for assessing risk profile for gas pipelines?**

20 A. No, we wouldn't. We would use the same approach
21 in gathering the information and modeling the loss data
22 however.

23 **Q. And I believe at least in your prefiled**
24 **testimony, and I believe again today you referred to a**
25 **USDOT report?**

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1 A. Yes.

2 Q. As part of the basis for your risk profiling for
3 this facility?

4 A. Yes.

5 Q. Are you aware that report is for something
6 called a toxic inhalant hazard?

7 A. Yes.

8 Q. Is your testimony that a toxic inhalant is a
9 similar risk profile to crude oil?

10 A. No. But the general industry profile is similar
11 in that there's transport of product over rail, and I
12 think I was further informed -- that was one piece of
13 information in the Phase 1 study.

14 The other one was the more recent report from
15 the USDOT where it did speak to the oil-over-rail
16 exposures. It was interesting to see in both reports
17 that the \$6 billion figure was identified.

18 Q. So let me ask you some more questions about the
19 crude.

20 You also testified I believe today that you
21 looked at all available information for oil, crude oil
22 by rail in the U.S. and around the world; is that
23 correct?

24 A. Yes, that's correct.

25 Q. And I believe you testified that you looked at

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1 the 24 incidents listed in Mr. Chipkevich's testimony;
2 is that correct?

3 A. Yes, sir.

4 **Q. So other than Lac-Megantic, did you evaluate the**
5 **damages from any of those other incidents?**

6 A. No. We picked the largest ones and that was the
7 extent of the time we spent with it. We didn't go to a
8 really thorough second Phase 2 analysis.

9 **Q. So you didn't look at any of the NTSB reports**
10 **that he introduced?**

11 A. Not in any detail, just a summary.

12 **Q. You didn't look at the damage reports from those**
13 **incidents?**

14 A. No, not in any detail. Just a few of the
15 largest, including the English loss and the Quebec
16 province loss in Lac-Megantic.

17 **Q. So you included photos of those incidents in**
18 **your testimony and you addressed them again today.**

19 A. Yes, sir.

20 **Q. Is it your testimony that those photos reflect**
21 **damages in the 5- to \$6 billion range?**

22 A. I can't say that for a fact. I don't know. I'm
23 sure there's probably less than that.

24 **Q. Also, I'll refer to an exhibit number for**
25 **council's benefit, but I'll identify it for your**

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1 benefit. Exhibit 1503, this is a Natural Resources
2 Damage reports that was prepared by the counsel for the
3 environment, consultants that were hired by the counsel
4 for the environment in this proceeding.

5 Did you review that document?

6 A. I don't believe so.

7 **Q. So you didn't review the damage estimates for**
8 **the worst-case discharges from a rail incident or marine**
9 **vessel incident that were prepared specifically for this**
10 **project?**

11 A. No. That would be very interesting to see.

12 **Q. Question on the lease figures.**

13 **You testified in both prefile and again today,**
14 **and you said you reviewed Ms. Hollingsed's testimony**
15 **about the lease figures; is that correct?**

16 A. Briefly, yes. I briefly heard her testimony on
17 an MP3 file.

18 **Q. So did you then hear her testimony that she did**
19 **not intend those to be the limits of coverage?**

20 A. I did hear that, yes.

21 **Q. And a question about timing.**

22 **Do you typically advise your clients to decide**
23 **insurance coverage amounts and obtain commitments for**
24 **insurance before they obtain permits for a facility?**

25 A. Absolutely. Any time that anybody is doing --

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1 any of our clients that use our services, they're risk
2 profiling all the time for anything proposed, anything
3 that's being changed within their infrastructure,
4 anything that's being divested out of their
5 infrastructure, absolutely.

6 **Q. So it's your testimony you can obtain insurance**
7 **coverage for a facility that doesn't have a permit that**
8 **has not been constructed --**

9 A. No, no, no, no. I don't think I said that --
10 (Court Reporter interruption.)

11 **Q. Is it your testimony that you can obtain**
12 **insurance coverage for a facility that has not yet been**
13 **permitted and has not yet been constructed?**

14 A. No. But the modeling exercise is typically done
15 prior to that in preparation for obtaining that
16 insurance.

17 **Q. Would a client go through that effort before**
18 **they know if they're going to obtain approval for a**
19 **facility?**

20 A. Something this size they should, sure.
21 Absolutely.

22 **Q. Are you aware of the conditions that this**
23 **council will have to impose on the facility to decide,**
24 **A, what could be built under what circumstances and what**
25 **the appropriate financial assurance amount should be?**

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1 A. I don't know that burden. I know what it takes
2 our clients to get something like that done, and if the
3 information is available around the risk profiling, then
4 it's normally a fairly easy exercise.

5 **Q. And are you aware of the statutory provision in**
6 **Washington which specifies a process whereby the**
7 **Department of Ecology establishes amounts for a**
8 **reasonable worst-case discharges of a facility like**
9 **this?**

10 A. I'm not aware of that process.

11 **Q. And then you're not aware that that applicant**
12 **has agreed to that process to be overseen by EFSEC as a**
13 **way to address this issue in this project?**

14 A. I'm not aware of that.

15 MR. DERR: No further questions.

16 JUDGE NOBLE: Ms. Drummond? Redirect?

REDIRECT EXAMINATION

17
18 BY MS. DRUMMOND:

19 **Q. I have a few follow-up questions.**

20 We mentioned first off in your testimony that
21 there are Washington regulatory requirements addressing
22 financial assurances.

23 A. Yes.

24 **Q. And Mr. Derr had mentioned that the applicant is**
25 **undergoing that process, but we don't have the**

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1 information from that. We don't know what the applicant
2 has committed to.

3 You haven't seen that; is that correct?

4 A. I don't think I've seen it, no.

5 **Q. There was some questions about the MFL analysis**
6 **that you went through for other facilities. You gave an**
7 **example of a nuclear facility, a natural gas pipeline**
8 **facility.**

9 A. Yes.

10 **Q. What were the MFLs there that you came up with?**

11 A. These were done many years ago. In the case of
12 Rochester Gas and Electric, when we first started that
13 exercise, the total MFL was in the neighborhood of
14 50 billion. They -- and that was 20 years ago. They've
15 since divested themselves of that, I believe a power
16 facility.

17 In the case of natural fuel gas, that operation
18 risk profile is in the neighborhood of 20 billion in
19 their full operation. So those are the aggregate
20 values.

21 Those are ranges and they can be, you know,
22 modified. These are to inform executive management
23 related to their exposures and their ability to purchase
24 insurance.

25 **Q. Okay. And based upon what you've seen, the**

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1 applicant has not pulled together an MFL for you to
2 review --

3 A. No, that's correct. I think Ms. Hollingsed
4 referred to that as an updated Black Swan study that she
5 was -- so if that's what she would provide, then that is
6 certainly acceptable. But I wouldn't term it a Black
7 Swan study. I think they're both fully predictable,
8 fully known risks, and it's just the value of those
9 risks haven't been identified at this point.

10 MS. DRUMMOND: Thank you, Mr. Blackburn. No
11 further questions.

12 THE WITNESS: You're welcome.

13 JUDGE NOBLE: Council questions? To my
14 right?

15 Mr. Lynch?

16 MR. LYNCH: Good afternoon.

17 THE WITNESS: Good afternoon, Mr. Lynch.

18 MR. LYNCH: I just wanted to understand what
19 you were saying in your testimony when you came up with
20 a rough estimate of 5- to \$6 billion needed in insurance
21 to cover a worst-case scenario.

22 Are you focused on just the facility itself?

23 THE WITNESS: No.

24 MR. LYNCH: Something that could happen at
25 the facility?

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1 THE WITNESS: No.

2 MR. LYNCH: So you're thinking more of the
3 situation that we had heard testimony earlier, like
4 there's a potential for a railroad car to fall off on
5 top of a building in Spokane and cause --

6 THE WITNESS: Correct.

7 MR. LYNCH: So you're thinking --

8 THE WITNESS: The entire economic activity
9 from the time that the exposure enters the state at the
10 easternmost point and any of the rail lines coming into
11 the terminal, the terminal itself, and then the exposure
12 related to the removal of that oil from the terminal out
13 in tankers into the Pacific.

14 MR. LYNCH: So whoever has legal control and
15 custody of the product at that time, you're just saying
16 it really should be the applicant's concern as opposed
17 to whoever might have legal control and custody at the
18 time?

19 THE WITNESS: It's my belief that there
20 should be a controlling entity to at least establish a
21 funding mechanism for paying for losses that occur. And
22 so if there's a contingent -- if there's a first party,
23 if they want to transfer that risk to the insurance
24 community, then there should be a first-party
25 reclamation response funding coverage that responds to

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1 any event that occurs under their total -- that their
2 oversight care, custody, and control.

3 They won't have care, custody, and control
4 of the product, but the nature of the terminal is to
5 accept that product into the terminal that are causing
6 the product to be received in the terminal by
7 contracting with rail companies to receive that product
8 from the owners of that product, and then they're also
9 controlling the environment of offloading that product
10 to the tankers and shipping that product causing it to
11 be shipped to elsewhere. So it's the entire economic
12 activity that I'm thinking about.

13 MR. LYNCH: Okay. I'm shifting just totally
14 to the facility itself.

15 In doing your estimate, did you consider the
16 fact that there's a small correctional facility there
17 with inmates?

18 THE WITNESS: No, I didn't know that.

19 MR. LYNCH: Okay. I'm just thinking about
20 my own insurance coverage, like I have anti-lock brakes
21 on my cars. That gives me a break on my insurance.

22 THE WITNESS: Right.

23 MR. LYNCH: I've got dead bolts on my house.
24 That gives me a break on my insurance.

25 I'm just wondering what about the

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1 applicant's operation you might have considered to maybe
2 adjust the amount of coverage you think is necessary.
3 For example, they've got an automatic shutoff system is
4 being contemplated for the transfer of product. If
5 there's a situation that occurs, in the case of a fire,
6 there's automatic foam that disperses -- that got --
7 that they will be using a culture where anybody can
8 issue a stop work order.

9 Are those -- do you --

10 THE WITNESS: Those are wonderful. They're
11 great risk mitigation tools and capabilities in the
12 operation. Those are wonderful to hear, but they fail
13 and they need -- those things need to be maintained.
14 And I think, you know, so to some degree they're great.

15 I think in building a risk profile those
16 aren't really considered because what we're looking at
17 with a total risk profile is the total exposures that
18 are related to the operation. And the fact that they
19 can buy insurance to a certain extent within that risk
20 profile, that's great and that they can mitigate loss,
21 that should have everybody feel less concerned. So
22 that's very good. Love to hear that and those are good
23 things and should be considered in the overall risk
24 profile.

25 MR. LYNCH: But in terms of --

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1 THE WITNESS: I did not consider it because
2 I didn't know that that's what they were doing.

3 MR. LYNCH: Okay. And I guess I'm trying to
4 understand how you do your process.

5 So even if you did know, you're saying you
6 wouldn't do it anyway because those things -- measures
7 can fail?

8 THE WITNESS: They do. There will be some
9 level of discounting to those measures and to what
10 extent. I don't know if they're measurable. Again, I
11 would like to see data that these sort of controls have
12 a 30 percent reduction and potential incident rates,
13 those kinds of things that provide data, hard data to
14 temper that risk profile. So they could be considered
15 for sure. Initially, no.

16 MR. LYNCH: That's helpful. Thank you.

17 THE WITNESS: You're welcome.

18 JUDGE NOBLE: Any questions to my left?

19 Mr. Moss.

20 MR. MOSS: I want to be sure I understand
21 this concept of maximum foreseeable loss.

22 THE WITNESS: Yes.

23 MR. MOSS: Are we talking about a single
24 event, such as a train derailling and blowing up in
25 downtown Spokane? Or are we talking about the 5- to

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1 \$6 billion representing everything went wrong everywhere
2 all at once?

3 THE WITNESS: Yeah, it's neither. A maximum
4 foreseeable loss is something that with a single event
5 there's a damage picture that's created. And that could
6 be property, that could be casualty, it could be
7 business interruption, it could be environmental
8 impairment, cleanup and so forth.

9 So what we're looking to try to do is to say
10 model a loss in a single event and put it back together
11 back to its original condition.

12 MR. MOSS: That's very helpful. Thank you.

13 What is the event that you're modeling to
14 arrive at a rough figure of 5- to \$6 billion?

15 THE WITNESS: We don't know yet quite
16 honestly. We haven't done any specific modeling for
17 this risk profile. So we only went through the process
18 of establishing Phase 1 study that allowed us to look at
19 the marketplace information and the testimony that was
20 provided by the railroads at the DOT level in 2009, I
21 believe, and 2014.

22 The 2014 informed us much more significantly
23 in this study because it really went into the specifics
24 of Lac-Megantic. And the potential exposures is in
25 their modeling related to the Lac-Megantic event. So it

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1 informed us much more significantly.

2 The other part of the study was the past
3 losses that have occurred and that tempered that study
4 in terms of the overall risk -- Phase 1 risk profiling.
5 But we haven't done any detailed study. You know, that
6 would be done in a Phase 2 type of operation where, as I
7 think I mentioned to Ms. Drummond, that additional
8 details would be required for gathering values of
9 property and potential assumptions related to loss of
10 life, assumptions related to the ecological impairment
11 and so forth.

12 MR. MOSS: Thank you. That's all.

13 THE WITNESS: Yes, sir.

14 JUDGE NOBLE: Mr. Rossman?

15 MR. ROSSMAN: Thank you for your testimony
16 this afternoon.

17 THE WITNESS: You're welcome.

18 MR. ROSSMAN: And this morning. I'm trying
19 to understand the relationship between the maximum
20 foreseeable loss and the level of loss that you would
21 recommend a client purchase insurance for.

22 Would you always recommend a client insure
23 against the maximum possible loss, or are there
24 situations in which you would want them to insure
25 against a more probable loss?

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1 THE WITNESS: Yeah. That's a very good
2 question, and I think a lot of it depends upon the
3 individual organization and enterprise. If that
4 organization is highly leveraged, they have a lot of
5 debt to equity that they've placed in the business, then
6 we would like to see them cover their exposures closer
7 to the maximum foreseeable loss.

8 For those organizations that have a lot of
9 equity conversely and would be able to cover and
10 withstand a loss within the maximum foreseeable loss and
11 were willing to accept the risk above the insurance that
12 they would be buying, then there would potentially be a
13 tradeoff there that they -- we would recommend obtaining
14 a more modest level of insurance to cover the maximum
15 foreseeable loss.

16 MR. ROSSMAN: That actually leads nicely
17 into my second question which is, is there any sort of
18 relationship of the net value of the asset that's being
19 insured against the level of insurance that should be
20 purchased? I guess when I think about buying home
21 insurance I think about covering the value of the house,
22 not necessarily the total amount of exposure that I
23 could have if a fire I started in my house then spread
24 to other houses. So does that figure into the equation
25 at all?

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1 THE WITNESS: Well, I think you probably do.
2 You don't know it, but you might. In buying your
3 insurance, there's a lot of coverages in there that
4 cover all of that. They cover rental expenses and so
5 forth if your family has to be moved out of the home
6 during the reclamation period and the liabilities
7 associated with that event, jumping over your property
8 line to a neighbor and so forth. Incidents that occur
9 in the cleanup and the response, emergency response, if
10 there's liabilities associated with that, those are
11 covered.

12 So it's a similar exercise in the commercial
13 environment. It gets a little more complicated though.

14 MR. ROSSMAN: I guess what I'm asking is, I
15 mean, if I was in a situation where I had -- where the
16 net assets of, in this case, the LLC are of a couple
17 order of magnitudes possibly lower than the maximum
18 foreseeable loss.

19 THE WITNESS: Yes.

20 MR. ROSSMAN: Does that factor in at all to
21 the level of coverage that the entity should purchase?

22 THE WITNESS: In my view, yes, because what
23 you're doing is putting at risk, in this particular
24 instance the city, the state in terms of picking up --
25 the citizens of the State of Washington to pick up the

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1 difference between what insurance is available and what
2 equity is available if the assets were eliminated. So
3 if there's no tangible net asset, then there was a
4 recommendation to buy more insurance.

5 MR. ROSSMAN: Okay. And so the
6 consideration there is sort of --

7 THE WITNESS: To cover the risks.

8 MR. ROSSMAN: Societal and ethical?

9 THE WITNESS: Societal and ethical approach,
10 being a good corporate citizen in the state.

11 MR. ROSSMAN: Got it.

12 Turning to the portion of your testimony
13 dealing with the corporate structure of the entity here,
14 I'm looking at the capitalization of one of the parent
15 companies. There's a mention made in your testimony,
16 this is on Page 16, the paragraph that starts at
17 Line 16. You presume that "they," I think meaning the
18 corporate parent, "would be required to provide a
19 contractual indemnity for this project, effectively
20 providing their combined capitalization for uninsured
21 obligations."

22 Can you elaborate on that a little bit more?

23 THE WITNESS: Of course. That was a great
24 question, and I think it really hits to the heart of
25 what is going on; the fact that the two organizations

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1 have substantial equity and capitalization in the case
2 of at least Tesoro that's been identified in a public
3 way on their 10-K in the neighborhood of
4 11 billion-plus.

5 Having a effectively a shell corporation
6 with no assets and no tie, if you will, no
7 responsibility of the main organizations, I think puts
8 at a much higher risk the operation. I don't feel
9 comfortable with that, you know, as a risk manager.

10 MR. ROSSMAN: In your experience, is that
11 something that you've seen required of subsidiaries
12 doing projects, to have an indemnification from --

13 THE WITNESS: Well, yes, or there's an
14 agreement between the joint venture partners that the
15 controlling joint venture partner would be responsible
16 for the insurance and fully and write that insurance as
17 part of their primary program, not to have a standalone
18 program. I heard Ms. Hollingsed yesterday say, and said
19 it several times, that the standalone program is all
20 that they're committing to.

21 So if you think about that, it's a -- it's
22 not as broad and deep a kind of coverage than a primary
23 coverages would be under the primary organization. And
24 so that would be a major concern, I think.

25 MR. ROSSMAN: I'm also remembering in that

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1 witness's testimony a reference to that the policy is
2 taken out by Vancouver Energy would also have as named
3 insured -- or I'm not quite sure what the technical term
4 is, but it sounded like also provide protection to the
5 two parent companies.

6 THE WITNESS: To be named as an insured on
7 that policy?

8 MR. ROSSMAN: I think that's right.

9 THE WITNESS: Okay.

10 MR. ROSSMAN: We also had testimony from a
11 corporate officer from Tesoro in terms of the structure
12 of actually working at the project wherein Vancouver
13 Energy will own the facility, but will then also have
14 service contracts with both of the parent companies to
15 actually operate respectively separate parts of the
16 facility.

17 THE WITNESS: I see.

18 MR. ROSSMAN: And then described a situation
19 where the parent company would indemnify Vancouver
20 Energy for its portion of the operations that it was
21 doing such that I believe the example provided by
22 counsel was if there was negligence in Tesoro employees'
23 fueling of a -- transferring fuel to a vessel such that
24 there was a spill and an incident that the Tesoro
25 employee, the contract would in some way indemnify

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1 Vancouver Energy.

2 THE WITNESS: I see. That's good.

3 MR. ROSSMAN: And this caused me a sort of
4 high amount of confusion as to a situation wherein
5 Vancouver Energy's insurance policy was indemnifying the
6 parent companies, and then there were contracts between
7 Vancouver Energy and the parent company to be doing work
8 which also included indemnification provisions.

9 THE WITNESS: Right. Well, insurance
10 follows the indemnities and that's the critical point
11 and that's what would be good in that particular
12 situation, I think, because there would be additional
13 insurance and additional equity, additional
14 capitalization that would be brought to an event that
15 would help to mitigate that event. And I think that's
16 good. That's the first I've heard of that. But really
17 looking at the indemnities is critical because the
18 insurance will follow those indemnities.

19 MR. ROSSMAN: And a question about the
20 insurance following the indemnities.

21 In the case of sort of a large incident that
22 potentially was at or near levels of coverage, how would
23 the sequence of claims against that insurance be
24 assessed? Who would be paid first in a claim situation?

25 THE WITNESS: Well, immediately the

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1 first-party property claims would be paid first. So if
2 there's a loss to the facility itself, the LLC would be
3 paid first in that sort of event as it relates to what's
4 covered under that policy.

5 Beyond that, there's probably going to be in
6 a very catastrophic loss reservation of rights letters
7 that are provided by any and all parties associated with
8 the event, reservation of insurance rights from the
9 insurers, so payment immediately would need to be coming
10 from the joint venture or the parent organizations.
11 They would not be relying on insurance at that point for
12 funding. That may occur later when the reservation of
13 rights letters are adjudicated, but it would only be at
14 that point.

15 MR. ROSSMAN: Okay. Thank you.

16 The last question I had just related to
17 something that I think came out on the redirect of the
18 maximum foreseeable loss for the nuclear facility and
19 large pipelines that you had mentioned were -- (Court
20 Reporter interruption.) For the nuclear facility and
21 large pipeline you had mentioned were, I believe, 50-
22 and \$20 billion collectively.

23 THE WITNESS: Yes. Yes.

24 MR. ROSSMAN: What level of insurance or
25 financial assurances were purchased in those instances?

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1 How were those risks socialized?

2 THE WITNESS: Very good point. It would be
3 the maximum amount of insurances purchased in the
4 marketplace for those risk profiles, and there's a
5 thorough broker study every year that's done to replace
6 that to the capacity that the organization can purchase
7 in the marketplace.

8 The balance of that is open risk, if you
9 will, unfunded risk, and those are societal concerns and
10 certainly business concerns, ongoing business concerns
11 and so forth. So those are risks that are unfunded.
12 But both of those organizations purchased the maximum
13 limits available.

14 MR. ROSSMAN: That actually reminds me of
15 one last question which is, Ms. Hollingsed had testified
16 about sort of the ability to daisy-chain or purchase
17 different chunks of insurance from different insurers
18 and talked about markets in the United States and the
19 Bahamas and London.

20 THE WITNESS: Yes. Yes.

21 MR. ROSSMAN: In your testimony of sort of
22 the billion dollars being the most that's available
23 commercially, I think, does that take that into account
24 or could one --

25 THE WITNESS: Yes, it does. It's called the

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1 quota share type of insurance. And so each and every
2 company would have their part in the building of the
3 insurance program and it would take -- they have an
4 attachment point where the other one left off and it's
5 the broker's job to make sure that all of those are
6 connected in the way of the forms, the policies and the
7 limits.

8 MR. ROSSMAN: In aggregate those get to that
9 billion dollars?

10 THE WITNESS: Correct.

11 MR. ROSSMAN: Got it. Thank you very much.

12 THE WITNESS: You're welcome.

13 JUDGE NOBLE: Mr. Siemann?

14 MR. SIEMANN: Thank you again for your
15 testimony today.

16 THE WITNESS: You're welcome, sir.

17 MR. SIEMANN: A couple questions maybe
18 similar to Mr. Rossman about insurance for the yard to
19 the LLC and parent companies.

20 In some ways you already plowed this ground,
21 but I'm thinking that if we as a council wanted to
22 ensure that there was coverage beyond what the LLC was
23 able to acquire, is there a way for us to obligate the
24 parent companies in some manner so that the state or
25 localities are not left with some unfunded expenses?

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1 THE WITNESS: Of course. I think you could
2 require them to purchase insurance on your behalf for
3 those events. So they would go into the marketplace and
4 effectively buy insurance for the state that would cover
5 the unfunded expected exposures.

6 MR. SIEMANN: Is that typically done in
7 other cases?

8 THE WITNESS: Sure.

9 MR. SIEMANN: It is?

10 THE WITNESS: Yeah. It's done in
11 municipalities where there's buildings and
12 infrastructure going on, contractors are out, they're
13 building and they're required to buy insurance on behalf
14 of the city or the locale or the state that would cover
15 their exposures related to that operation.

16 MR. SIEMANN: This brings up another
17 question, which is level of coverage.

18 I've heard that there are limits to what can
19 be acquired, and if I'm correct, about a billion dollars
20 is available in the marketplace?

21 THE WITNESS: Billion, billion and a half.
22 That's what I'm hearing at this point.

23 MR. SIEMANN: So can that level of insurance
24 up to 5 or 6 billion, so that delta, be acquired?

25 THE WITNESS: No. It's unlikely. No.

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1 MR. SIEMANN: So now in that situation, how
2 does that indemnification get covered?

3 THE WITNESS: Well, I think then the parent
4 organizations would be on the hook to the extent of
5 their capitalization to pay, ultimately pay. Now, the
6 adjudication process is going to take some time, but
7 ultimately the state would be in a good position to the
8 extent that cash flow and ability to rectify that
9 situation occurs from the parent corporations.

10 You know, to be just looked at a quick study
11 of Tesoro, they have 11.8 billion I think in total
12 capitalization. Well, part of that is equity, I think
13 4 billion or so, and the other part is debt, which is
14 7 billion or so. That 7 billion is probably committed
15 and the equity portion would be readily available, not
16 easily readily available, but available for covering
17 exposures.

18 MR. SIEMANN: And --

19 THE WITNESS: And I don't know about Savage.
20 So that's a private organization and my understanding is
21 the LLC will be very, very thinly capitalized.

22 MR. SIEMANN: But I'm still struggling with
23 how we ensure that Tesoro parent company there is able
24 to step up and is actually obligated to step up with
25 that --

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1 THE WITNESS: I'd write it into the
2 indemnity. (Court reporter interruption.) Okay, I'm
3 sorry.

4 I would respond by writing that obligation
5 into the indemnity with -- that ties the parent
6 organizations to the LLC's responsibilities to the
7 responsible parties, the cities, the states and so
8 forth. That should all be tied into the indemnity,
9 because think about the following.

10 The insurance will follow, but to the extent
11 that insurance is fully utilized or fully gone to its
12 limits, then the organizations themselves have capital
13 to pay for those obligations.

14 MR. SIEMANN: And have you seen those be --
15 those arrangements be legally enforceable or perhaps
16 challenged in court and fail?

17 THE WITNESS: They certainly have been
18 challenged in court. They have -- some have failed,
19 some have succeeded. The one to me that's coming to
20 mind right now is 9/11 and there were a lot of
21 agreements at that point with insurance and other
22 obligations, and that is all working its way through --
23 still through the legal system. So some have succeeded
24 and some have failed.

25 MR. SIEMANN: Okay. And on the topic of

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1 insurance, I'm curious about the limit of insurance just
2 because my understanding of Lloyds of London, for
3 example, is that they'll ensure anything for a price.
4 Is that actually not true?

5 THE WITNESS: That's not true; to the extent
6 of the capacity for that particular risk profile. So in
7 this particular instance, what an insurer or group of
8 insurers will do, the world marketplace of insurers that
9 respond to providing insurance for this type of risk
10 profile, there's a limited amount of capital, risk
11 capital that has been allocated to this type of risk
12 profile.

13 And insurance is a law of large numbers, so
14 all of the underwriters are trying to gain as much
15 premium as they can to be able to support their limits
16 and their risk capital. So it's that sort of risk
17 capital limitation that's driving the upper limits of
18 this type of risk profile that can be gained in the
19 marketplace.

20 MR. SIEMANN: I want to ask about exclusions
21 because there was some testimony previously about
22 exclusions, and I think your prefiled also discussed
23 them.

24 THE WITNESS: Yes, sir.

25 MS. SIEMANN: And there are a number of

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1 exclusions, as I understand it, that limit the insurance
2 companies' exposure and payout.

3 THE WITNESS: Yes.

4 MR. SIEMANN: Is there a way for those
5 exclusions to be covered or is that just required
6 additional insurance as a sort of specific -- like named
7 peril and -- you tell me what the right terminology is.

8 THE WITNESS: Okay. I think I talked about
9 that the information came through as an all risk.
10 There's no such thing as an all risk insurance policy.
11 It's a term of use in a legal sense, but it's not a term
12 of use in the insurance business.

13 So I think I've referred to that as the
14 named peril policy only covers perils that are
15 identified and covered in the policy. The special peril
16 policy is when the -- the insurance company must prove
17 the peril causing the damage is not excluded.

18 So the answer to your question is yes, under
19 both policies exclusions can be eliminated with
20 additional premium, additional underwriting criteria and
21 additional premium. And that's a very normal
22 circumstance in the insurance business, looking at
23 policies' terms and conditions, identifying and
24 comparing the risk profile to the insurances, the
25 willingness of the organization to either accept the

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1 exclusions or not. If they're not willing to accept the
2 exclusions to go back to the underwriter to have a
3 quotation for removing that exclusion.

4 MR. SIEMANN: And in your experience, is it
5 possible to cover all of those exclusions in one way or
6 another, or no?

7 THE WITNESS: Not necessarily all. There
8 are some exclusions that aren't -- you're not able to
9 cover, except for under potentially another policy. One
10 policy may exclude terrorism; you purchase terrorism
11 insurance on a separate policy. Another would be a war
12 exclusion. That's not covered, generally not covered
13 under any. Nuclear exclusion, that's generally not
14 covered under any policy. So there are some exclusions
15 that are standard to all policies that are virtually
16 impossible to have them eliminated.

17 MR. SIEMANN: Okay. A couple more
18 questions.

19 So your maximum foreseeable loss, that was
20 for one event; is that correct?

21 THE WITNESS: That's correct, for the entire
22 profile.

23 MR. SIEMANN: How should we think about that
24 cost or a cost, a risk cost for the entire life of the
25 project which, as I understand it, is 20 years?

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1 THE WITNESS: The approach would be what I
2 described with some of our other clients and that is to
3 identify the risk map of what is exposed in the state
4 related to the terminal operation, and then to create
5 value scenarios or loss scenarios that would be played
6 out in the event of high risk areas of high density,
7 high property value areas with a high ecological
8 impairment, exposure I think is the place to start
9 first. And then work your way down, if you will, the
10 risk pyramid to get to a point where you're talking
11 about high frequency/low value events.

12 So it's working that all the way through and
13 continually keeping that up and available. You know, as
14 a new building comes into the risk map or as a new
15 office -- you know, you should be considering that
16 throughout the life cycle of the entire project, and
17 that's how we advise our clients.

18 There was some questions about that earlier,
19 about keeping these risk profiles up and current and so
20 forth, you know, looking at new prospective business,
21 you're looking at divesting a business in an enterprise.

22 All of those are factors in building a risk
23 profile and maintaining a risk profile. It's as similar
24 as a safety system or any other maintenance that you
25 would do.

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1 MR. SIEMANN: I guess what I'm wondering
2 about is if you think about insurance coverage across a
3 20-year life of the project rather than for a single
4 event, does that increase the financial exposure?

5 THE WITNESS: Yes, it does. There's no
6 question, because the insurance markets change all the
7 time. We saw very, very significant market contraction
8 after 9/11. Stands to reason. There's a lot of money
9 going out and no capacity; nobody could write insurance.
10 So the limits came down very, very significantly.
11 That's an example.

12 So that will happen throughout a 20-year
13 life cycle. Maybe -- well, it hasn't really happened
14 really very significantly in the last 20 years, to be
15 quite honest. There's a lot of capacity now. There's
16 anticipated that that capacity will occur in the future.
17 So I would have that be less of a concern, but there is
18 a concern there that there would be less limits
19 available for this project down the road.

20 MR. SIEMANN: What I'm trying to get at, and
21 maybe you've answered this and maybe I'm not being very
22 clear, is does the level of insurance that we should
23 consider appropriate for this project increase because
24 if you think about it across 20 years and perhaps
25 multiple events rather than for a single maximum

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1 foreseeable loss?

2 THE WITNESS: Yes, I believe so. But that's
3 taken into consideration when you're doing the risk
4 profile, because if events do occur, they fit into the
5 risk profile. In other words, the total cost of risk is
6 identified with events that occur. So if those are
7 known events, it's kind of a pyramid. If there's one
8 this year, okay, that's a billion, all the limits are
9 utilized and so forth.

10 That informs the model to say the next year
11 maybe the limits should be a billion-five and purchasing
12 more insurance would be prudent. So I think with
13 each -- if it's a half a billion, if it's a \$200 million
14 event that also fits into the risk profile, and maybe a
15 billion dollars is enough at that point, but those
16 \$200 million are continually being monitored to make
17 sure the reserves are correct for the \$200 million, and
18 that, eventually in the final adjudication, those are
19 the final numbers.

20 It's a projection that needs to be done
21 continually to make sure that the financial information
22 is fresh as it relates to risk.

23 MR. SIEMANN: Okay. Thank you for that.

24 One last question here is with regard to,
25 you referenced an English rail event a couple of times,

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1 and I'm just wondering if you could just remind me.

2 I think it's already been mentioned here
3 before, but briefly what happened and how much did it
4 cost?

5 THE WITNESS: I think as I recall, I looked
6 at it briefly when we were looking at this, that the
7 event was an oil-by-rail delivery at a terminal in
8 Hertfordshire, England, and I think the expected risk
9 caused, I don't know if everything is adjudicated at
10 this point, but roughly at the \$2 1/2 billion level.

11 MR. SIEMANN: Do you know what occurred that
12 led to the --

13 THE WITNESS: I don't. I don't know the
14 cause. I don't know that that's available. I didn't
15 find it.

16 MR. SIEMANN: Thanks very much.

17 THE WITNESS: You're welcome.

18 JUDGE NOBLE: Mr. Shafer? I'm sorry,
19 Mr. Snodgrass, you can go, but Mr. Shafer is first.

20 MR. SHAFER: Mr. Blackburn, thank you very
21 much for your testimony today.

22 THE WITNESS: You're welcome.

23 MR. SHAFER: One question. Is there a
24 relationship between so-called acts of God and the
25 insurance, meaning does the coverage still apply if it's

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1 the result of an earthquake or volcanic activity or
2 severe weather of some sort?

3 THE WITNESS: Typically, you'd have to have
4 coverage for those risks, those perils, and that would
5 be covered, and appropriately, under a policy for
6 insurance, yes.

7 MR. SHAFER: So irregardless of the event,
8 the insurance should fly?

9 THE WITNESS: Well, irregardless of any
10 event is a big area, so we'd have to look at the
11 specific perils. But typically, yes, most standard
12 perils are covered or able to be covered by insurance.

13 MR. SHAFER: Okay. Thank you.

14 JUDGE NOBLE: Mr. Snodgrass?

15 MR. SNODGRASS: Good afternoon. Just a
16 couple of questions.

17 One is, I'm interested in the ecological
18 impairment, and I just wanted to be clear that in your
19 work is that something that is quantifiable or just a
20 consideration that should be addressed?

21 THE WITNESS: I think it's somewhat
22 quantifiable, I believe within, you know, certain
23 estimates and ranges. Again, it goes to two critical
24 points, and those points are the value of the
25 environment, what is that value, and what's the economic

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1 production of value. In other words, if that waterway
2 or if that forest were unavailable, what would be the
3 business interruption for that. So that's one aspect of
4 it.

5 And the other is cleanup and how far does
6 that go and to what extent will the costs be projected
7 to return that property to its original condition.

8 MR. SNODGRASS: Thank you.

9 The other question, I believe I asked this
10 to a prior witness but I wanted to get your sense of it.

11 Certainly one of the, I presume, foreseeable
12 issues in concerning an MFL would be a Cascadia bubble
13 subduction quake in this region.

14 THE WITNESS: Yes.

15 MR. SNODGRASS: In such an event, obviously,
16 damages are going to be limited to this facility or the
17 transport to and from.

18 In a practical sense, your thoughts about
19 how the insurance environment for this project would
20 function in that context.

21 THE WITNESS: The limits would be -- the
22 coverages would be different in a quake -- (Court
23 Reporter interruption.) Quake, earthquake coverage, so
24 to the extent that there's earthquake coverage, those
25 limits would be available. To cover the full MFL, I

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1 don't think those limits are available and would be a
2 concern, societal concern, I think.

3 MR. SNODGRASS: So just in terms of capacity
4 of the industry at large given the massive number of
5 claims that would result, would that in your judgment
6 impair on how it works for this particular facility?

7 THE WITNESS: Well, the limits probably
8 would be provided and then the insurers would walk away.
9 So, yeah, I think there would be significant concern
10 that if there were an event of that sort that there
11 would be a lot of unfunded exposure.

12 MR. SNODGRASS: Just --

13 THE WITNESS: If I understand the
14 question --

15 MR. SNODGRASS: Yeah, yeah. Just to be
16 clear, though, not because the original policies weren't
17 written to fully capture that but, rather, because the
18 insurers go bankrupt?

19 THE WITNESS: Correct. The insurers pay
20 their limits and then they're out of the risk, you know,
21 and the facility closes its door and they wrap things up
22 and they're done. So the bag is left with the societal
23 funding.

24 MR. SNODGRASS: Thank you.

25 MR. STONE: Good afternoon. I have a

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1 question regarding acts of terrorism. Are they excluded
2 from policies?

3 THE WITNESS: Typically they are, but
4 they're purchased under another terrorism policy
5 specifically underwritten for terrorism.

6 MR. STONE: That would be a separate policy
7 then?

8 THE WITNESS: Yes. There's lots of ways to
9 write it. You know, it could be a separate form
10 under -- a buy-back of that exclusion under the primary
11 coverages, that could be done, or, more typically,
12 there's a separate insurance policy.

13 MR. STONE: Okay. So this facility has a
14 proposed life span of 20 years, so would the insurance
15 bought for this facility be a 20-year policy with a set
16 premium or does the premium get adjusted annually like
17 my homeowners insurance?

18 THE WITNESS: Annually, yeah. Negotiated
19 annually.

20 MR. STONE: Okay. Thank you.

21 THE WITNESS: You're welcome.

22 JUDGE NOBLE: Any other questions to my
23 right? I had a couple of questions too.

24 THE WITNESS: Yes, Your Honor.

25 JUDGE NOBLE: You were asked about the

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1 regulatory requirements in Washington for this kind of
2 an operation.

3 Does the insurance industry have any use of
4 the term "worst-case scenario"? Is that equivalent to
5 your maximum foreseeable loss?

6 THE WITNESS: I believe so. I think it's
7 similar, yes.

8 JUDGE NOBLE: If it were further defined in
9 some way, you wouldn't -- would the insurance industry
10 still want to do a maximum foreseeable loss calculation?

11 THE WITNESS: Typically, they would.

12 JUDGE NOBLE: And you mentioned that in the
13 case of the limits being reached for the joint venture
14 and then you mentioned that the parent companies would
15 be -- other assets would be on the hook, but there would
16 be an adjudication process. By that you mean a lawsuit?

17 THE WITNESS: Lawsuits, who's responsible
18 for what, review of the indemnity agreements, review of
19 the total picture of who's responsible, review then of
20 the assets and what's available and all of that sort.

21 JUDGE NOBLE: And maybe nobody who was being
22 sued would be found to be liable?

23 THE WITNESS: That could be. That could be,
24 and that's one of the reasons why the insurers reserve
25 their rights before paying anything, so that they're

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1 able to be certain that that's -- you know, where the
2 liability stands.

3 JUDGE NOBLE: And Ms. Hollingsed, I asked
4 her about performance bonds or bond products.

5 THE WITNESS: Yes.

6 JUDGE NOBLE: First, can you explain the
7 difference between insurance and bonding?

8 THE WITNESS: Yes, of course. I'll start
9 with insurance.

10 Insurance is provided as indemnity for the
11 losses that occur. Bonding is a position of the bonding
12 company to employ other resources if the primary
13 resource, if the contractor can't fulfill their
14 obligations.

15 JUDGE NOBLE: All right. And that's
16 basically what Ms. Hollingsed said, and she said that
17 there was no product like this available like a bond
18 available in this situation.

19 THE WITNESS: For what?

20 JUDGE NOBLE: For money to be available
21 immediately to be paid by the bonding company in the
22 case of a loss.

23 THE WITNESS: That's probably correct,
24 because there's -- if the operation, if the LLC would be
25 fulfilling its obligations and correcting the situation

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1 or providing resources to resolve the situation under
2 performance, then there wouldn't be any need for the
3 performance bonding company to step in. In the event
4 they stop or unable to do that for any reason, then the
5 bonding company would step in on their behalf.

6 JUDGE NOBLE: And in the situation where,
7 say, the joint venture were to file for bankruptcy
8 protection and the insurance became part of the
9 bankruptcy estate, then there's no product in the
10 insurance market that would be available to cover the
11 loss in the meantime?

12 THE WITNESS: It depends on the loss. The
13 liability, no. The property, probably, because it's a
14 first-party loss. If the facility has to be rebuilt it
15 would be rebuilt under the property insurance, so there
16 would be a response there for rebuilding. And there
17 would be funds available for the facility.

18 For the liability, correct, that there would
19 be -- that would be an asset. The insurance policy
20 would be an asset of that bankrupt company, and then
21 that would be adjudicated accordingly as part of the
22 bankruptcy proceeding with insurance being available at
23 that time.

24 JUDGE NOBLE: So in either that scenario or
25 the scenario where there was a claim against the parent

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1 companies, there would be litigation that would take
2 place before there would be any money available, say,
3 for cleanup?

4 THE WITNESS: That's correct.

5 JUDGE NOBLE: Okay. Thank you.

6 Are there questions based on council
7 questions? We took so long I thought maybe we were
8 done.

9 MR. DERR: You got to give me a minute to
10 flip back through my notes. I think just one, Your
11 Honor, if I might.

12 JUDGE NOBLE: Yes, of course.

RE-CROSS-EXAMINATION

13
14 BY MR. DERR:

15 Q. I'm going to forget who asked you this question
16 it was so long.

17 But I believe you were asked a question about
18 response to an incident, say, for example, a spill
19 incident, and you testified to there ought to be a first
20 party responding to the incident.

21 A. Yes.

22 Q. I just wanted to ask you, did you review either
23 the BNSF witness testimony about how they address
24 response and immediate response to an incident? Or did
25 you review the spill incident witnesses who testified to

1 **how they address immediate response to an incident?**

2 A. No, I did not.

3 **Q. So you wouldn't know how they kind of described**
4 **how they jump in and address the incident and then worry**
5 **about who pays later?**

6 A. No, I did not.

7 MR. DERR: Thank you. That's the only
8 question I have. Thanks.

9 JUDGE NOBLE: Thank you. Are there any
10 other questions?

11 MS. DRUMMOND: No, Your Honor.

12 JUDGE NOBLE: All right. Thank you very
13 much for your testimony. You are excused as a witness,
14 Mr. Blackburn.

15 THE WITNESS: Thank you, Your Honor.

16 JUDGE NOBLE: Thank you.

17 MR. DERR: Your Honor, can I ask an exhibit
18 clarification?

19 JUDGE NOBLE: Yes, sure.

20 MR. DERR: Maybe it's mostly for Ms. Mastro.
21 Exhibit 3121 that was attached to Mr. Blackburn's
22 testimony was an excerpt of the report, and I believe we
23 at least conferred with City counsel -- excuse me, City
24 lawyers, not the city council -- to replace that excerpt
25 exhibit with the full report. And I just wanted to

1 verify that the copy of the exhibit that the council has
2 is a 29-page report, not a 3-page excerpt.

3 JUDGE NOBLE: We'll ask Ms. Mastro.

4 MS. MASTRO: The exhibit number again?

5 JUDGE NOBLE: 3121.

6 MR. DERR: 3121.

7 MS. MASTRO: We have a three-page one.

8 MR. DERR: You don't have the 29-page one?

9 MS. MASTRO: I believe the City gave it to
10 us and we haven't had a chance to load it yet.

11 MR. DERR: I just wanted to verify that the
12 admitted exhibit is the full report even if it hasn't
13 been loaded yet.

14 JUDGE NOBLE: I'll make a note to make sure
15 that --

16 MR. DERR: Thank you.

17 MR. POTTER: And just for the record, yes,
18 we had that conversation and we agreed to provide for
19 it, so --

20 JUDGE NOBLE: And you in fact have provided
21 it to him?

22 MR. DERR: Yeah, I think we did. I just did
23 the same thing. I pulled mine up and only saw three
24 pages, and I just want to make sure you have the full
25 thing. Thank you.

1 MS. REED: We did provide it to Ms. Mastro.

2 JUDGE NOBLE: Okay. Thank you. And I'll
3 check on that. She's got a lot to do.

4 MR. DERR: Understood. Thank you.

5 JUDGE NOBLE: Are there further witnesses
6 today?

7 MR. POTTER: Not from the City, Your Honor.

8 JUDGE NOBLE: All right. There are no
9 further witnesses from any of the parties?

10 MS. BOYLES: That is correct, Your Honor.

11 JUDGE NOBLE: All right. In that case, we
12 need to go over what's happening tomorrow.

13 MS. BOYLES: Your Honor, tomorrow we have
14 Mr. Tyler Clary, City of Vancouver witness which is
15 about water supply to the proposed facility; Mr. Joseph
16 Molina, City of Vancouver witness, fire and emergency
17 management and response; Mr. Eric Holmes, City of
18 Vancouver, land use and public policy; Mr. Matt Grady
19 who is a Columbia Waterfront fact witness; and Mr. Brian
20 Schaeffer who is City of Spokane fire and response
21 capability.

22 JUDGE NOBLE: Would you remind us again, I
23 know several of these have prefiled testimony, but could
24 you just confirm?

25 MS. BOYLES: Yes. There's prefiled

1 testimony from Mr. Clary, Mr. Molina, Mr. Holmes,
2 Mr. Schaeffer, but not Mr. Grady.

3 JUDGE NOBLE: Thank you. Council would like
4 to know who they are rebutting, if you have that.

5 MS. BOYLES: I do not have that information.
6 For some of them, Mr. Grady and Mr. Schaeffer aren't
7 rebutting anyone. And the City of Vancouver, who are
8 they rebutting?

9 MS. REED: We will be updating our list of
10 exhibits, and we will include who they are rebutting
11 when we do that.

12 JUDGE NOBLE: So that probably will be
13 available in the morning?

14 MS. REED: We'll send that today.

15 JUDGE NOBLE: All right. Thank you.

16 MR. JOHNSON: Your Honor, sorry.

17 JUDGE NOBLE: Yes, Mr. Johnson?

18 MR. JOHNSON: Could we ask that we get a
19 copy of that too?

20 JUDGE NOBLE: I'm sure you will.

21 MR. JOHNSON: Since we would normally get
22 the description at the end of the day. That's my first
23 question.

24 And then specifically on Mr. Grady, if we
25 could get some better sense for the subject matter, that

1 would be helpful.

2 MR. POTTER: I can provide a response on the
3 City side. Clary is on the water supply system. And
4 I'm sorry, I'm not remembering the gentleman who spoke
5 to that for the applicant, but I'm sure you do.

6 On the Molina, it's on fire response, so
7 that would be relevant to Rhoads. Mr. Holmes is on land
8 use and comprehensive plan and city policy, so that
9 would be responsive to Mr. Carrico.

10 JUDGE NOBLE: And Mr. Grady, any further
11 information about his testimony?

12 MS. BOYLES: Your Honor, he is a Columbia
13 Waterfront fact exhibit [sic]. I believe he's going to
14 be talking about the facts involved with that project.
15 But I am not his attorney.

16 MR. POTTER: And Schaeffer is Spokane fire.
17 So again, Schaeffer is responsive to Rhoads.

18 JUDGE NOBLE: All right. Mr. Johnson, if
19 you need any additional information about Grady's
20 testimony, I'm sure you can contact counsel and find an
21 opportunity to talk about it.

22 MR. JOHNSON: We will. Thank you, Your
23 Honor.

24 JUDGE NOBLE: Anything more we need to do
25 either on or off the record before we adjourn for today?

1 There being nothing, we are adjourned until tomorrow
2 morning at 9:00.

3 (Proceedings adjourned at 2:38 p.m.)
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C E R T I F I C A T E

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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 _____
22 day of _____, 2016.

23
24
25 DIANE RUGH, RPR, RMR, CRR, CCR
CCR NO. 2399