Verbatim Transcript of Special Council Meeting (Afternoon)

Washington State Energy Facility Site Evaluation Council

November 21, 2017

BUELL REALTIME REPORTING
COURT REPORTING AND LEGAL VIDEO

206.287.9066 I 800.846.6989
1325 Fourth Avenue, Suite 1840, Seattle, Washington 98101
www.buellrealtime.com
email: info@buellrealtime.com

Certified WBENC Women's Business Enterprise

WASHINGTON STATE

ENERGY FACILITY SITE EVALUATION COUNCIL

Richard Hemstad Building

1300 South Evergreen Park Drive Southwest

Conference Room 206

Olympia, Washington

November 21, 2017

1:30 p.m.

SPECIAL COUNCIL MEETING

(Afternoon)

Verbatim Transcript of Proceeding

REPORTED BY: ANITA W. SELF, RPR, CCR #3032

Buell Realtime Reporting, LLC.
1325 Fourth Avenue
Suite 1840
Seattle, Washington 98101
206.287.9066 | Seattle
360.534.9066 | Olympia
800.846.6989 | National

www.buellrealtime.com

A P P E A R A N C E S

Councilmembers Present:

Roselyn Marcus, Chair
Jaime Rossman, Department of Commerce
Cullen Stephenson, Department of Ecology
Dennis Moss, Utilities and Transportation Commission
Dan Siemann, Department of Natural Resources

Local Government and Optional State Agencies:

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

Assistant Attorney General:

Ann Essko, Senior Counsel
Tom Young

Staff in Attendance:

Stephen Posner
Tammy Mastro
Sonia Bumpus
Cassandra Noble
Joan Aitken
Patty Betts
Ami Kidder

* * * * *

OLYMPIA, WASHINGTON; NOVEMBER 21, 2017

1:30 p.m.

P R O C E E D I N G S

JUDGE MARCUS: Good afternoon. It is 1:30 and I am calling to order the special meeting of the Washington State Energy Facility Site Evaluation Council on Tuesday, November 21st, 2017.

Ms. Mastro, could you call the roll, please.

MS. MASTRO: Department of Commerce?

MR. ROSSMAN: Jaime Rossman, here.

MS. MASTRO: Department of Ecology?

MR. STEPHENSON: Cullen Stephenson, here.

MS. MASTRO: Department of Fish and Wildlife?

Department of Natural Resources?

MR. SIEMANN: Dan Siemann, here.

MS. MASTRO: Utilities and Transportation Commission?

MR. MOSS: Dennis Moss is here.

MS. MASTRO: Local Governments and Optional State Agencies, for the Tesoro Project, Department of Transportation?

MR. STONE: Ken Stone is here.

MS. MASTRO: City of Vancouver?

MR. SNODGRASS: Brian Snodgrass is here.

MS. MASTRO: Clark County?

MR. SHAFER: Greg Shafer, present.

MS. MASTRO: And the Port of Vancouver?

MR. PAULSON: Larry Paulson is here.

MS. MASTRO: Chair, there is a quorum for the regular EFSEC Council and for the Tesoro Project Council.

CHAIR MARCUS: Thank you.

We're going to start this meeting with a presentation from EFSEC -- the EFSEC staff, Sonia Bumpus, on the Tesoro Savage Vancouver Energy Distribution Terminal Environmental Impact Statement.

MS. BUMPUS: Thank you. Good afternoon, Chair Marcus and councilmembers. EFSEC staff are pleased to announce that the Final Environmental Impact Statement for the Vancouver Energy Distribution Terminal project is complete. An electronic version of the Final EIS was provided to councilmembers on November 7, 2017.

The precursor to the Final EIS, the Draft EIS, was published in November of 2015. During the public comment period, EFSEC received approximately

250,000 public comment submissions.

After several months of categorizing the comments, screening them and abstracting discrete comments, we identified approximately 3,700 substantive comments that needed specific evaluation and responses. These comments and their responses are documented in the Final EIS in Appendix R.

Ms. Kidder, who is sitting -- well, she's not sitting next to me anymore, she moved -- she's going to be providing a brief overview of what the impacts were that were identified in the document and she'll mention where Appendix R is.

The purpose of the discussion today is to present the significant adverse impacts that are identified in the Final Environmental Impact Statement. We also will discuss at a high level the significant unavoidable impacts that were identified in the document.

The second objective for today is to answer questions that councilmembers may have about your review since November 7. We also wanted to list on this slide some of the updates and revisions that have been made between the Draft and the Final EIS.

And as I mentioned, you know, we do want to talk about what your questions are. We understand

you've been reviewing the document. Given the size of the document and the scope of the updates and revisions to the document between the Draft and the Final, we really have tried to keep this presentation brief and focus our time with you on addressing your questions and making sure that we can provide clarification if there is any needed.

So moving to some of these bullets that have to do with these revisions that I've mentioned earlier, for the seismic analysis, there's been additional modeling in areas 300, 400 and 500 of the site, and 8.9 maximum considered earthquake was used to evaluate the seismic hazards of the built structures at the facility.

Seismic resources in Section 3.1 of the Final EIS has been updated with the results, which also discuss proposed mitigation. Ms. Kidder will talk a little bit about this. This is one of the significant unavoidable impacts that are identified in the document.

I also wanted to point out that our technical expert on this topic is Dr. CB Crouse. He's just sitting over here, and he's here to answer questions after the presentation if there are any about this topic.

For the air quality analysis, there's been additional modeling of diesel particulate matter and NOx emissions. The analysis includes combined mobile and stationary sources at the facility. And these updates have been applied to Section 3.2 of the Final EIS. For these, no significant impacts were identified.

Our technical experts on this topic are Mr. Chad Darby and Geoff Scott. They're sitting just here. And again, they're here to answer questions after the presentation on this issue.

For rail and vessel risk assessment, we have done additional -- what I would say is made minor revisions to the Chapter 4 discussions. An example of some of the updates that we've done for the risk assessment include the accounting of DOT 117 tank cars at the facility. And so this has been accounted for in the rail risk assessment.

We have Dagmar Etkin, who is on the line. Dagmar, are you there?

MS. ETKIN (via bridge line): Yes, I am.

MS. BUMPUS: So Dagmar is available to answer questions about the rail and vessel risk assessment and also the risk associated with spills. These are all discussed in Chapter 4 and they are

categorized as significant, unavoidable impacts, because if a spill did occur, the impacts are anticipated to be severe.

For the spills analysis, substantial work has been done in Chapter 4 to provide additional information about trajectory and fate spill assessments. There's a 3-D simulation that was conducted using SIMAP modeling tools. Three locations were modeled. We also have a two-dimensional overland and overwater simulation that was performed for the entire project rail corridor study area within Washington state.

So that concludes my part of the presentation, and I'm going to hand this over to Patty Betts who's going to provide a little bit of information about the role of the Final EIS under SEPA.

And then after Patty's brief introduction on that topic, we'll move to a discussion from Ami Kidder about the organization of the document and the adverse impacts that were identified.

MS. BETTS: There are many aspects to the State Environmental Policy Act. Today we are focusing on the role of SEPA and an EIS in decision making, determining significance and the use of SEPA

substantive authority.

An EIS provides an impartial discussion of significant adverse impacts, alternatives and mitigation measures. It also discusses nonsignificant impacts, or it can also discuss nonsignificant impacts.

For making final decisions on a proposal, SEPA expects and requires decision makers to consider environmental quality as part of their balancing judgment when making final decisions on a proposal. The EIS provides that information on environmental quality.

One of the important aspects of an EIS is the identification of significant impacts. There are two kinds of significant impacts identified in SEPA. One is when an impact has a reasonable likelihood of more than a moderate adverse impact on environmental quality.

An example of a "reasonable likelihood" or probable "adverse impact" are the impacts identified in Chapter 3. It discusses the probable impacts to 17 different environmental resource areas. When a probable impact rises to the level of more than moderate, it is also identified as significant. Some of the impacts identified in Chapter 3 are identified

as significant.

The other type of significant impact exists when the chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred. An example of "low likelihood" and "severe" is the discussion on spills in Chapter 4 and the discussion of seismic events that can lead to spills in Chapter 3.

SEPA provides agencies with supplemental authority outside the existing authority they have through other laws and rules. It gives agencies additional authority to condition or deny a proposal.

There are some basic requirements for using this supplemental authority. For example, the Agency must have adopted policies, plans, rules, et cetera, which provide a basis for using this supplemental authority. And one of EFSEC's policies and procedures for conditioning or denying a proposal is WAC 463-47-110.

Conditions are typically called mitigation measures in an EIS, and they must be for identified adverse impacts in the EIS, either nonsignificant or significant. I'm going to just make a few points about mitigation measures to kind of explain what they are and what they're not.

Mitigation does not generally include commitments by the applicant. Those are considered to be part of the proposal and are covered along with the rest of the description proposal in Chapter 2.

Mitigation must be reasonable and capable of being accomplished. The EIS identified some mitigation measures that could be imposed by others, but not EFSEC. These are provided as information, but are not credited for reducing adverse impacts because they would be -- not be enforceable by EFSEC.

Mitigation is also limited -- limited to mitigating the amount of impact from the proposal. In order of priority, mitigation includes avoiding, minimizing, rectifying, reducing or eliminating over time, compensating or monitoring with corrective measures.

Mitigation could include additional data collection to better quantify the amount of adverse impact of the proposal as long as that measure also includes a requirement to mitigate the impact once the amount of impact is determined. Mitigation can be imposed that has not been identified in the EIS as long as the impact connected to that mitigation has been identified.

And lastly, the identification of

mitigation does not automatically mean an impact would be fully eliminated or offset, nor that a significant impact would be reduced to a nonsignificant level.

An example is a mitigation measure that would improve the structural integrity of the facility to better withstand the effects of a major earthquake. The risk of structural failure in a large spill is reduced but not eliminated, and the severity of the impact, if it should occur, remains severe, so, therefore, that impact is still significant.

For denying a proposal using SEPA substantive authority, the impacts must be considered significant after applying the mitigation. When the mitigation that EFSEC could impose would not mitigate the impact to a nonsignificant level, the impact is significant and unavoidable.

I'll pass this on.

MS. KIDDER: I know it's a lengthy document, and I hope your review is going well, but I would like to draw your attention to some changes that were made going from the Draft to the Final EIS.

You'll have noticed that the Final EIS follows the same organization as the Draft, but there are some changes we'd like to highlight.

In the Executive Summary, we have included

a discussion of key issues, which are several issues that we've identified of impacts that cross multiple resources.

In the Chapter 1 Project Background, there is a section that specifically lists changes made between the Draft and the Final.

In Chapter 2, we have included a table. As the application has been updated, there have been additional commitments or proposals made by the applicant, BMPs, and mitigation measures that they have offered that we've listed in a table for easy organization, to make it easier for everybody to find.

In Chapter 3, we have some of the additional analysis that was previously mentioned, and we also have additional summary tables at the end of each resource section, which summarize and list all the impacts and mitigation measures as identified within that resource.

Chapter 4 also has some additional analysis. The rail and vessel risk analysis are in this section as well as the spill trajectory modeling. And it has also been reorganized so that, if you're looking for something in Chapter 4, it may be in a different place than the Draft Chapter 4.

Chapter 5 was also updated with some

additional analysis and updated greenhouse gas discussion.

And Chapter 10, which is a new section that was not in the Draft EIS, this chapter addresses the summary comments and responses from the many public comment responses we received on the Draft EIS, and these are the summary responses. You'll find the discrete individual comments and responses listed in Appendix R.

You will also find in the appendices supporting documents, studies and plans; in particular, the full reports of the updated analysis [sic] that were previously mentioned. In particular, Appendix [sic] C, E, F and J are ones to note if you're looking for these full reports.

To dive into Chapter 3 a little bit, some sections to note, we do have four identified significant, unavoidable impacts that are discussed in detail in Chapter 3.

In Chapter -- or in Section 3.1, the impact identified is potential impacts to the facility from hazards. So should the MCE earthquake occur, impacts would -- would affect the dock and transfer pipeline, and damage could result in a spill. EFSEC has mitigat- -- identified mitigation in this section,

but as mentioned, there's no mitigation that we've identified that would fully eliminate this risk.

In Section 3.8, Environmental Health, the impact is along the rail corridor with relation to accidents and fatalities. In the event that there's a collision with a pedestrian or motorist, an injury or fatality would be considered a significant impact. EFSEC has not identified mitigation in this section that EFSEC could impose, although there is mitigation identified that others -- other parties could impose.

Section 3.15, Public Services and Utilities, and Section 3.16 both speak to a similar impact along the rail corridor. Specifically, this impact is the increased rail traffic would increase traffic delays from gate downtime, and the specific concern here is emergency response times from fire or other emergency responders.

In 3.16, this is specifically discussed in terms of what that impact would be to environmental justice populations along the rail corridor. For both of these sections, again, mitigation has been identified that a third party could impose, but there's no mitigation that EFSEC could impose for these impacts.

There are other significant impacts

identified within Chapter 3. In 3.6, the vessel corridor has impacts identified to fish. Juvenile and small fish, including subyearling Chinook, could be impacted from deep-draft vessel wakes. There is iden- -- there is mitigation identified as imposed by EFSEC that could reduce this mitigation down to nonsignificant.

Similarly, 3.9, Noise, has an impact from facility nighttime construction noise, which is typical construction activities, jet grouting and impact pile driving would all be above the nighttime noise threshold at both the Fruit Valley neighborhood and the jail work center. And again, EFSEC has identified mitigation for this impact that could be imposed upon the applicant.

In Chapter 4, it's important to note that the impact discussion assumes that a spill, fire or explosion has occurred rather than normal operations discussed in Chapter 3.

The language from WAC 197-11 is here, but, in summary, no mitigation can completely eliminate the risk. These impacts may be unlikely under the risk analysis, but because the impacts would be severe, they're still considered significant under SEPA.

And this is the lens through which the

Chapter 4 impacts are discussed. This is a section where we have a lot of new information. As previously mentioned, both the rail and vessel spill risk analysis have been updated, as well as the trajectory modeling. We also have more information on emergency response methods, resources, trainings and planning gaps that have been included.

And we do have mitigation measures identified in Chapter 4. They are identified as whether or not they could be imposed by EFSEC or by a third party, but we also have a further distinction of these mitigation measures as to whether or not they would improve prevention of such an incident, or whether they would improve response capabilities.

MS. BUMPUS: Okay. So at this time, as I said, we've kept this fairly high level in anticipation of questions from councilmembers. And so our -- our technical experts are ready to answer any questions you may have, and Staff will also do our best to answer questions.

CHAIR MARCUS: Thank you.

Any questions or requests for additional information about the modeling or the information or where you can find it?

Mr. Rossman?

Page 18

MR. ROSSMAN: Yes. One question I have is, I know that there are estimates of spill risk for each of the components on the project, rail transit at the site and the vessel. Is there a place where those are all compiled, or is this sort of a cumulative spill estimate?

MS. BUMPUS: You're asking where this information is at in the document in Chapter 4?

MR. ROSSMAN: I'm asking if there's a -- is there a table that compiles it all into an overall risk of release, or are they just treated separately, the rail risk, the vessel risk?

MS. BUMPUS: Dagmar, could you speak to this?

MS. ETKIN: Yes. Thank you. There's -- if you show slide 13 --

MS. BUMPUS: Okay. We're looking at slide 13.

MS. ETKIN: Yeah. Okay. So slide 13 talks about, these are the -- the spills that might occur during vessel transfer activities. So that's if there's a vessel at the dockside receiving oil from the facility that -- these are -- these are the spills -- spill frequency from that.

The next slide is 14, which slide 14 shows

the probability of in-transit spills by -- from the -- from the rail corridor. It's just a probability of the spill.

15 shows the spills that could occur by rail and the volumes -- the frequency of the different volumes of spills, the small ones -- small spills, moderate spills and very large spills, either occurring from loaded tank cars or locomotives in transit, or empty locomotives which could just spill diesel on the return trip, and also for transfers and facility -- transfers at the facility from the rail to the storage tanks at the facility and then an accident on the rails.

Then slide 16 shows the frequency of spills of different volumes from vessels in transit, underway.

So in these slides, we've separated out the different -- the different spills based on the source -- the source of the spill. In the EIS document itself, I'm -- I'm not sure whether there's a table that pulls those -- these all together.

MS. BUMPUS: We don't believe that -- we're checking, but we don't believe there's a table in Chapter 4 that pulls all of this together into a single table.

MR. ROSSMAN: Thank you.

MS. ETKIN: Yeah. So there are separate -- separate tables based on the source. But this basic -- these four slides basically summarize the likelihood and volumes of spills. Not their impact, but just the likelihood.

CHAIR MARCUS: Other questions?

Mr. Siemann?

MR. SIEMANN: On this same topic, I'm wondering if you could help us just understand what we're seeing here and what all of this information means. And I'm thinking about it in terms of some of the information we got in the adjudication in which we were told that, for example, we can expect a derailment along the route corridor every 2.4 years.

How can we understand this in those terms, the potential for spills?

MS. ETKIN: I -- I don't know where the value of 2 -- of a derailment every 2.4 years comes, whether that was something that came from the analyses that my team did, or whether that was something that someone else brought in. I -- I can't answer that specifically.

But what -- what I did in the analysis to calculate the probability of -- of a rail spill was to

look at the likelihood that there might be a derailment or other kind of accident. And other kinds of accidents might include hitting a, you know, truck or a car or -- you know, at a crossing. And in this respect, we were thinking not about the potential impacts to the -- to the passengers in the car, but rather the impacts to the train. That would be another way in which you might have a -- have a spill.

Looking at the likelihood of having an accident and then looking at the likelihood that that accident might result in spillage, and that would depend on how many tank cars actually derailed or were damaged, and then what would the likelihood be that damaged cars might release oil.

So you could have an accident -- for example, there was a derailment a couple of years ago in downtown Seattle, I think the Magnolia -- somewhere in the Magnolia area where there was a derailment but there was no spillage. There was just -- there was a derailment of some crude-by-rail tank cars. So it's possible to have -- have a derailment in which there's no spillage. In fact, that's more likely to be the case than that there is a spill.

So we've taken into account the likelihood that you'd have derailments and other types of

accidents, the likelihood that those accidents would result in a spill, and then looking at the likelihood of different numbers of tank cars actually releasing oil, which would provide the distribution of potential volume.

MR. SIEMANN: Can I follow up?

CHAIR MARCUS: Sure.

MR. SIEMANN: I appreciate that.

What I guess I'm trying to get to is, in the adjudication, that number of, you know -- and the derailment every 2.4 years give us a more tangible sense of what we could expect in terms of the life of the project and the likelihood of a -- in that case, a train derailing.

In this case, in terms of spill frequencies from vessels or from other sources, is there a way to give us a similar kind of sense of, for example, the number of small spills that one might expect during the 20-year life span of this, or the number of large -- medium-size spills or number of large spills that might be expected statistically as -- during the life of this project?

MS. ETKIN: Sure. So the data that you see summarized -- and, again, these are slides 13 -- 13, 14, 15 and 16 -- gives the annual probability of

having a -- having a spill. So that means every year there's a, you know, certain likelihood that -- that there might be a spill. And if you -- you can turn that annual probability into a return period and say that, roughly, you know, for example on the first slide --

MS. BUMPUS: Dagmar --

MS. ETKIN: -- it says -- yes.

MS. BUMPUS: -- which slide should --

MS. ETKIN: Number -- number 13.

MS. BUMPUS: Okay. And that is Expected Vessel Transfer Spill Frequencies?

MS. ETKIN: Yeah, for --

MS. BUMPUS: Okay.

MS. ETKIN: For -- yes, and I'm using this as an example.

MS. BUMPUS: All right. Thank you.

MS. ETKIN: You have number of spills per year and then an annual probability. I've turned the spills per year into this number, annual probability.

For example, the first line shows 1 in 14, and if you -- if you divide 1 by 14, you actually get .07118. That's the number of spills per year.

But you could take this annual probability, and then that gives you a -- and take the

Page 24

inverse of it -- so in other words, 14 -- you'd expect roughly 1 in 14 years -- once in 14 years you might have a spill. That doesn't mean that you can't have two years in a row of having a spill, or that you'll necessarily have a spill during that 14-year period, but that gives you an expected spill of once in 14 years.

And if your time period for this project is 20 years, then you could say that there will be, you know, one -- at least -- probably at least one small spill during that time period.

Now, for the spills that are larger, you now have, let's say, for a -- for the vessel transfer spill in this case, you have a -- you know, a thousand -- a thousand-barrel volume spill, those are much less frequent, much less likely to occur, and here the annual probability is 1 in 1600.

So it doesn't mean that in that 20-year period you won't have a spill of this size; it just means that it's much more -- much less likely to occur.

So the same would be true for the other -- the other sources of spills. So, for example, on slide 14, please, switch to that one, we now look at -- these are the likelihood of a rail spill. And

here you'd have a crude -- of a spill of crude oil, you'd have a 1-in-48 likelihood that there would be a spill.

And that -- so it does -- it means that it's -- if there's a -- I can't do the math quickly in my head, but there's a 1-in-48 chance, .021, and you multiply that by 20 years, and you could -- I have my calculator here, I'll do it for you -- it means there's a .4 -- like a 40 percent chance that you might have a spill within that 20-year time period.

But, again, you may have two spills or you may not have any, but this is just generally what the probability would be expected. And, again, this is a spill of any volume, not necessarily a large spill for the -- for the rail.

If you can look on slide 15, that gives a sense of the volumes of spillage that might occur. So one is a very -- the 40,000-barrel or a 20,000-barrel, so a very large spill like that is a 1-in-480 -- or 1-in-4,800 chance --

CHAIR MARCUS: Thank you.

MS. ETKIN: -- in one year, and then you just multiply that by 20, and that gives you a sense of how many you might expect in 20 years for the facility.

CHAIR MARCUS: Thank you.

Mr. Snodgrass?

MR. SNODGRASS: Good afternoon. I have a couple of questions on the analysis, and let me thank you for doing it. Just reading it all the last couple of weeks takes a while. I'm sure producing it was quite a feat.

In terms of just picking up on the conversation we're having now regarding spill sizes, I'm looking at page 125, table 88 of the -- of your appendix, essentially, Appendix E, the Rail Spill Risk Analysis, and I just want to make sure I'm understanding it correctly.

It's listing in terms of spill volume the 10th percentile as being 2,860 barrels.

I'm sorry. Are you able to hear me?

MS. BUMPUS: I don't think she was able to hear you.

MS. ETKIN: I didn't hear any --

MR. SNODGRASS: Oh, apologies. My mic was off.

MS. ETKIN: I'm sorry.

MR. SNODGRASS: On this question of spill size, I'm looking at Table 88 in Appendix E, and I want to make sure I understand it correctly. It's

listing the 10th percentile spill as 2,860 barrels.

Does that mean that -- as I understand it, that means that 90 percent of the spills will be greater than that, if there is a spill. And I'm talking about rail transit.

MS. ETKIN: Right. Table 88. All right. I must have a different version of it, because I see that's Recent Accidents, but --

MR. SHAFER: 86.

MR. SNODGRASS: My mistake. 86.

MS. ETKIN: Table 86. Okay.

MR. SNODGRASS. Yeah.

MS. ETKIN: Table 86, Expected Spill Volume Per Incident, Loaded Trains?

MR. SNODGRASS: Yes.

MS. ETKIN: Okay. So you're looking at the 10th percentile, which is 2,860. That means if there were to be a spill, that the -- that 90 percent of the spills would be smaller than this, and only 10 percent would be larger. I'm sorry. I reversed it.

The 10th percentile is the -- in the -- in the curve is what -- so 90 percent of the spills might be larger than that and 10 percent smaller.

MR. SNODGRASS: Thank you.

Page 28

And the reason I raise that is because elsewhere in the document, and maybe in this section or in Chapter 4, I think it identifies 2,500 barrels, or maybe it was 2,200, I can't remember, as sort of a distinction in terms of talking about a large spill versus a smaller one.

And so as I read this, 90 percent of the spills that are predicted would be what this document talks about is a large spill. Does that -- am I understanding that correctly?

MS. ETKIN: Right. In this -- in this modeling where you'd have -- yes, they'd be -- you'd have at least 261 barrels spilled. And then if you had -- now in the next -- if you had 4.4 tank cars releasing, there would be 2,860 barrels spilled.

MR. SNODGRASS: Thank you.

And I also had a couple of questions on -- one of the larger issues that came up in the adjudicative process was in terms of making these kind of projections, to what extent we could rely on freight data in general versus data from crude by rail.

MS. ETKIN: Right.

MR. SNODGRASS: And so I appreciate some of the additional work that you've done here to at

least start trying to get at the crude-by-rail data, recognizing there's some complication in collecting it.

And so I have a question on Table 31.

MS. ETKIN: Just a moment.

MS. BUMPUS: And Dagmar, let me know if there's a slide you'd like me to go to that would help --

MS. ETKIN: No, this is -- these are not on the slides. This is in Appendix E.

MS. BUMPUS: Right.

MS. ETKIN: So Table 31, yes. That's looking at --

MR. SNODGRASS: And the question is -- and so this is an attempt to gather that question of okay, what is the derailment rate and the accident rate for crude-by-rail, as best it could be estimated in the last --

MS. ETKIN: Right.

MR. SNODGRASS: Looks like decade or so. And so that information is useful.

I guess I wanted to know what -- I guess why there wasn't a comparison between that and the actual freight data, because it can be drawn.

I'm looking at -- Table 25 is Freight

Page 30

Train Mile Line -- Trait [sic] -- Main Line Accident Rate Per Train, and then it says, Average Accidents Per Million Miles, and it gives a national figure of -- I apologize for getting in the weeds, but I think there's an important question here -- national derailments in the last approximate decade, .0 -- 0.6475.

MS. ETKIN: Right.

MR. SNODGRASS: When I did my math and I compared that to the modeled crude-by-rail derailment, it looks like, according to this -- and I had somebody else check it out and wanted your reaction to it -- that the estimated crude-by-rail derailment rate is 28 times worse than the record- -- than the reported freight rate.

MS. ETKIN: Okay. So you're comparing -- I'm going to have to put you on speakerphone so I can -- hopefully you can still hear me.

So you're comparing Table --

MS. BUMPUS: We're having trouble hearing you, Dagmar.

MS. ETKIN: Then I don't know how else to do it. I can't -- I can only -- I can't type and -- okay. Table 31 --

MR. SNODGRASS: Yeah. Let me add one

thing in terms of the comparison that I forgot to mention.

Table 25, which is the all freight data as expressed in million train miles, Table 31, which is the CBR accident and derailment data --

MS. ETKIN: Right.

MR. SNODGRASS: -- as expressed in transits, we heard during the adjudication, I think, from the proponent's expert witness that the average length of a CBR in-transit is somewhere around a thousand miles.

So just assuming that -- just taking that for this example, I included that, and so, again, when I did the math, I got 28 times worse crude-by-rail derailment rate than freight rate. And so I just wondered --

MS. ETKIN: Right.

MR. SNODGRASS: -- your reaction to that.

MS. ETKIN: Right. Well, it -- you're -- you're comparing different kinds of data. I'm assuming you're talking about the -- since I had no -- did not have access to any of the information that was provided in the -- at the adjudication, I'm assuming you're talking about studies done by Barkan? Is that Chris Barkan perhaps?

Page 32

MR. SNODGRASS: In terms of the average -- in terms of the average length of a trip, yeah, that did come from Mr. Barkan, but the other facts are from the tables here.

MS. ELKIN: Right, right, right. I've used -- I've used a lot of his data in these analyses.

The -- I don't know how to do that calculation in my head to figure out what -- how that would be by train mile based on the number of transits, so I -- it's possible that that's -- that it comes out to the numbers you're saying. I don't know. I can't check that here.

The reason that I was relying on freight derailments and also -- it's not just derailments, but it's also other kinds of accidents or the -- though the most common kind of accident that you have is a derailment, and these other accidents could cause derailments, so you could have a collision that would then cause a derailment, for example.

The reason that I did not rely totally -- solely on the crude-by-rail is that there's such -- so few data to work with that it's not really statistically valid to do that. And I was concerned -- I did provide it here as a point of information, but I did not think that it was -- that

it was a statistically sound approach. That is why I did not continue with this.

MR. SNODGRASS: Okay. And just one other question on those lines in terms of, you had mentioned the examples of crude-by-rail derailments that don't result in spills, and you had given the example of -- of one that happened in Seattle. I think during the adjudication we heard about one that happened in Philadelphia.

This document, I can't remember the page, says there's several instances of that, and I just wondered what -- could you elaborate on that? Are there -- are we talking about 10 cases? 20? 100? More?

MS. ETKIN: No. The problem with the data on -- on the -- on derailments is that it doesn't tell you what was -- what was being carried on the train, so you can't use the Federal Railroad Administration data. We don't know what was on the train.

We just know whether it had -- whether there was a -- whether they were tank cars or not, whether it was carrying hazardous materials, which could be other -- things other than -- than oil. And so there's no -- no way to -- to -- to actually identify specific incidents based on that data.

With that said, I followed the reports about -- about incidents that occurred, and there were a lot of them that were, you know, obviously in the news, and I've included tables of those in here. And these are ones -- these were the only ones that I was able to identify.

MR. SNODGRASS: Thank you.

CHAIR MARCUS: Additional questions?

Mr. Cullen [sic].

MR. STEPHENSON: Yes, thanks, Chair Ro. Two questions, actually.

One, in the highlights provided today, several issues aren't in there. I understand that, but I just thought it would be illustrative to say, for instance, why air quality is not one of those things in there, and just a brief discussion of why that would not rise to this level.

MS. BUMPUS: So I'm going to have -- you know, part of the answer will include some information to be provided by Mr. Chad Darby.

So the short answer is that it's not included in the rest of the slides because we did not identify it as a significant, unavoidable impact. And so I'm going to -- I think it would be appropriate to let Geoff and Chad answer the other part of the

question, which is more to the threshold that we looked to when we were looking to see if this went over or under that significance threshold.

MR. DARBY: Does this work? Okay.

Is there a specific air quality impact that you would like us to address?

MR. STEPHENSON: No, sir. Just overall of why it doesn't rise to the level --

MR. DARBY: All right. Well, in the air quality section, you'll notice there's a lot of different analyses that are done in there for toxics emissions and criteria pollutant emissions, and within those categories there's a lot of different pollutants. And we tried to highlight in there what the criteria were for deciding whether or not something was at the level of a significant impact.

For instance -- and Geoff can talk in more detail about this, but diesel particulate matter was one of the things that was looked at. And in the Draft EIS, as you may recall, there was discussion about subsequent analyses that would be done for diesel particulate matter, and for the Final EIS, that analysis was completed.

And the threshold for deciding whether or not there was a significant impact from diesel

particulate matter in terms of lifetime excess cancer risk was ten in a million, which is what's used for stationary sources that are permitted in the state of Washington, so that is the threshold that's used ubiquitously in SEPA analyses.

And so, for instance, that is one of many of the thresholds in that section that were utilized. And then when the analysis was done and an impact was found to be below that threshold, in that case diesel particulate matter, and -- then it was determined to not be significant or less than significant.

MS. BUMPUS: Geoff, do you want to -- you look like you want to say something. Do you want to add to that?

MR. SCOTT: Well, only if -- does that cover the -- your -- your question?

MR. STEPHENSON: Yes, that's fine. Thank you.

And then my second question, I think, is to Mr. Posner as the responsible official. You and your staff and the consultants have worked a lot on this document. The Council has been trying to keep up through the draft phases, and certainly we've been spending a lot of time since the draft came out November 7th.

Are you and Staff and consultants confident in this document and feel like it's as good as we can get right now, or is it even better than we can get right now? And so just -- I want to hear from Staff, and I want that, you know, just stated that this is really representing your best efforts. I think it is, but I want you to say that.

MR. POSNER: Right. Well, you know, as you alluded to, this document has been worked on for quite a long time. And we've come a long way since the issuance of the Draft EIS. There's been quite a bit of work that's been done.

And as the SEPA responsible official, I would say that, you know, based on my consulting with the contractors and EFSEC staff and my review of the document, that it does comply with the SEPA rules and that it is sufficient to be issued as a Final EIS.

MR. STEPHENSON: Thank you.

CHAIR MARCUS: Questions, Mr. Snodgrass?

MR. SNODGRASS: One follow-up question, Ms. Etkin, on the vessel analysis that I forgot earlier.

I'm looking at page 39 of the vessel appendix, and on the -- near the top it talks about Tug Escorting Characteristics Applicable to Columbia

Page 38

River Use. And I guess I -- if you could just, if you have that in front of you, explain what's being said.

It says -- under the second point, it says -- well, first it says: Tug escorts provide two main features to reduce risk. One is raise situational awareness and the other is ability to prevent groundings due to tug assist.

And then it goes on to say right below that: The first feature would be recognized if not outweighed by the other factors. The second feature requires room to maneuver. And as noted by Bar Pilots above, the limited widths of the channel does provide this.

So this is different information than we heard in the adjudication, and so I wondered if you could elaborate on it.

MS. ETKIN: I did not write this section. This was -- this was written by people at Herbert Engineering, so I -- I do not -- I don't think that I could answer -- answer your question. We could look into it and contact the people who worked on this -- sorry -- and provide that at another time.

MS. BUMPUS: Dagmar, can you repeat the name of the sub-consultant?

MS. ETKIN: Herbert Engineering Corp.

MS. BUMPUS: Thank you.

MS. ETKIN: It's on the front cover of the -- of the report.

And more specifically, if I had the information from -- that was different than what was provided in the adjudication, which I don't have, I think it explains what might be different in -- in our determination relative that. I don't know. I'm not sure what -- what we're comparing.

MR. SNODGRASS: Well, it was just -- this is a high-level question. In the adjudication, at least, I don't recall there being a question about the effectiveness of tugs to reduce the risk of grounding. And this, at least as written, suggests there is.

MS. ETKIN: That there could -- there would be -- yeah. All right. I could contact Dr. Moore and ask him if he could explain why -- why he might have brought this up in this context.

MR. SNODGRASS: Thank you.

MS. BUMPUS: Councilmember Snodgrass, Staff can follow up on that question. There isn't anyone from that sub-consulting firm available here, so we can follow up with you and see if we can get some clarification.

MR. SNODGRASS: Great. Thank you.

CHAIR MARCUS: Mr. Shafer?

MR. SHAFER: Ms. Bumpus, thank you very much for the good presentation today.

One question on public comment. You actually started this as a reference in the presentation today, and I go to page 8 on the Executive Summary. It also references public comments generally saying that many comments -- include many comments in opposition of the proposed project and many -- many comments in support.

I know that's a very basic statement, but to me it kind of implies there's an equivalence there, that there were about 50 -- you know, 50/50 sort of thing.

And I'm not looking for exact percentages here by any means, but can you help us with some sense of the opposition versus, you know, in favor and those against as you were, you know, plowing through 250,000? Was it at about that equivalency, about 50/50, you know, for and against, or 60/40 or 90/10 or just some -- maybe a little bit more perspective there on that?

MS. BUMPUS: Well, it's a tough question. I don't -- I don't know the percentages, and we could find out what the percentages are by going back and

looking at our database that was used to sort of catalog these, so I could find probably an exact number.

But just to, you know, estimate, I mean, certainly the majority of the comments that were submitted were really about the document and, you know, more to do with issues that were identified in the document.

There were -- I guess just to kind of clarify, when we received a submission, a lot of times there were details about specific issues in the EIS itself, but then the commenter might also mention sort of -- or give away a position on the project itself.

And we didn't really spend a lot of time looking at -- at those particular comments. We were looking for the substantive comments that the commenter was communicating to us about the document.

So it's -- it is hard to say, but -- I mean, I would certainly say -- I guess I'm comfortable saying that there were a large portion of them that were expressing in one way or another opposition to the project.

MR. SHAFER: Thank you. That's very helpful.

CHAIR MARCUS: Mr. Rossman?

Page 42

MR. ROSSMAN: A question on the rail risk estimates, and I'm still -- still working through those sections, but to what extent are the -- are the estimates of future incidents based on assumed improvements in rail safety relative to present day, and how would the estimates be different if one instead assumed that present day conditions continue forward?

MS. ETKIN: Okay. Let me go through the different -- the different factors that were taken into account, and then we can -- some of them are already in place and some of them we are assuming.

One of the -- the larger assumptions is that there would be DOT 117 cars or D -- or DOT 120 cars in -- you know, exclusively in use.

Tesoro announced in May of 2015 that it would -- that it would actually -- I'm sorry -- yeah, May 2015, they announced that they would be using exclusively DOT 117 cars, and then on 18 May 2015 they announced substantial completion of the first of the DOT 120 cars, which provide even higher safety relative to the -- the DOT 117 cars.

Now, this would assume that they would have -- have those in place, and that -- and those -- the safer tank cars would reduce the likelihood that

there would be spillage if there were to be an accident. So that's -- that's one side of it, and so we have to assume that that's -- that that's -- those are universally being used.

As far as the factors that reduce -- reduce the likelihood of having an accident, it's just going to take me a little bit of time to go through the report to find that section because I have to scroll through here to find it. Just hold on one moment. I will find it for you.

The -- and now, just related, again, to the likelihood of release, and then we'll go back to the likelihood of an accident in the first place, the other factor that's involved in the tank car release rate is the assumption of lower operating speeds, and I believe, to the best of my knowledge, that is required at this time.

And the other part of that would be thermal protection, which is also part of the -- the change in the tank cars, improved tank car safety now.

If we go back to the factors like positive train control and so forth, I'll have to look at those, when those are going to be in effect. And so there's -- I'm sorry. It's hard to do this with one hand here. Hold on.

So the adjustments to the rail accident probability are enhanced BCP braking, which I believe to -- I believe those are currently in use, but if -- if not, that would -- that might change things by a few percent in terms of the likelihood of an accident.

Positive -- you know, we're assuming that positive train control, PTC, is fully implemented. I don't know current -- I don't know what the current state of that is. I believe that was in the works. I'm sorry. I don't -- I mean, I wrote this a couple of years ago. I don't know what the current situation is in terms of positive train control and wayside detectors.

Track upgrades, I believe track upgrades have been made, but, again, I don't know what the current situation is on that.

So I -- I would have to do more research to see what the state is. So we are assuming that those things are in place and that they are effective, and the modeling takes into account a range of potential effectiveness.

MR. ROSSMAN: So looking at Table 8 in -- in that appendix, which was on page 21, and that's in Appendix --

MS. ETKIN: I'm sorry. Table 8?
MR. ROSSMAN: Yes.
MS. ETKIN: So that's probably in the Executive Summary. Table 8, yeah.
MR. ROSSMAN: So that's where we're looking at the composition of the -- of the fleet.
MS. ETKIN: Yes.
MR. ROSSMAN: And am I right that the -- it's the Fleet G there that's the hundred percent 117 and 120s?
MS. ETKIN: That's right.
MR. ROSSMAN: And is that your understanding of the applicant's commitment? I was not clear whether their commitment was to 117s or if that included 117-Rs.
MS. ETKIN: I don't know what the commitment is.
MR. ROSSMAN: Okay. So these are -- these risk assumptions are assuming a fleet with entirely 117 and 120s, and then implementation of those other measures, but you're not able to give us a sense of which of those are in place currently?
MS. ETKIN: I don't know. In terms of what I did in this analysis, I was asked to look at -- you know, to -- to assume that -- what would happen if

they didn't have -- if they were only using 1 -- you know, 111s, or if they were using 117s and 120s, so you have a distribution of the different types of cars here.

And you can see that if you're only dealing with 111s, you have a -- you have three -- I'm sorry -- three times as many spills expected as with the -- with the fleet that is fully 117s and 120s. And if there's some combination of those, or somewhere in between, your spill probability would be somewhere in there.

MR. ROSSMAN: Okay. Thank you.

CHAIR MARCUS: Any other questions?

MS. ETKIN: So likewise, if some of the other -- other factors -- the other safety factors were not fully implemented, then it's possible that you might have an increase in spill frequency, or accident frequency in the spills.

CHAIR MARCUS: Mr. Stone?

MR. STONE: Thank you, Chair Marcus.

I have a question regarding the seismic analysis that was done in support of the EIS. And the question is, how was the seismic risk analysis performed with respect to determining whether the buildings and structures on the terminal site met the

state building code?

MS. BUMPUS: Dr. Crouse, could you come up to the microphone?

DR. CROUSE: The structures at the facility were designed to meet applicable codes. So the state of Washington has adopted the 2012 International Building Code, which references the ASCE 7-10 standard for the determination of seismic loads for building structures. So there are other types of structures besides building structures at the site, as you know.

MR. STONE: Well, I meant buildings and structures.

DR. CROUSE: Yes. So I don't know whether the State has adopted the ASCE 7 standard -- or the ASCE 61-14 standard for piers and wharves, but that is a standard that's out there designed -- or -- and applies specifically for piers and wharves that's not covered in the IBC.

MR. STONE: So the standards you're referring to, do they take into account the seismic hazards at the site with respect to geology and soils?

DR. CROUSE: Oh, yes, absolutely.

MR. STONE: And what sort of magnitude seismic event are the standards based on?

DR. CROUSE: The standards are based on a probabilistic definition of the load, which considers all possible seismic events. So, for example, it includes the great earthquake on the Cascadia subduction zone plus other regional earthquakes.

MR. STONE: Okay. Thank you.

CHAIR MARCUS: So just since we're on our --

MS. ETKIN: I have an answer to the question about when positive train controls will be implemented in reference to the previous question.

And the information that I have is that PTC is supposed to be present on all main line tracks in Washington state by 2018. The completion of wayside detector controls was implemented in May -- May 2016.

And according to the Federal Railroad Administration, in February 2016 when we were completing this analysis, BNSF Railway has targeted the completion of the positive train control by 2018.

If that is not, in fact, true, then there would be a higher likelihood of an accident. But that was the information we had at the time.

Thank you.

CHAIR MARCUS: Thank you.

And just to follow up on the seismic, when you talked about the building code, I understand that there's more than just a structural code for the building codes. There's electrical and mechanical. And I'm wondering if that was part of your analysis.

DR. CROUSE: No. But that -- that would obviously have to be considered in the design. All applicable codes, mechanical, electrical, would have to be followed.

CHAIR MARCUS: Mr. Siemann?

MR. SIEMANN: If his is following up on this --

MR. ROSSMAN: It is.

CHAIR MARCUS: Go ahead.

MR. ROSSMAN: So in terms of the seismic characteristics of the site, there's -- there are ground improvements that are made, and those are very specific to the conditions on the site. But then there's the construction standards of the building and risk category, for example.

And that -- am I right that that's independent of the site, so that be would the same wherever you were putting the facility in terms of the -- those standards for the facility itself as opposed to ground improvements?

DR. CROUSE: I'm not sure I follow your question. Are you talking about the risk categories that -- you know, it -- it doesn't matter where this facility would be located in terms of the risk category that's assigned.

But the -- for this particular location, the risk category affects the determination of the seismic design category, which is really the important category for seismic design, because it determines not the level of load, seismic load that the facility has to be designed to, but also the level of seismic detailing.

So regardless of whether you're in risk category 1, 2 or 3 for this particular location, you're in the highest seismic design category for this particular site, which is category D. So this is going to require the higher seismic loads and also the higher level of detailing.

Does that answer your question?

MR. ROSSMAN: Well, I think so. So that's based on the site and the soils at the site?

DR. CROUSE: Yes, that -- right.

MR. ROSSMAN: So irrespective of the risk category 2, 3, 4 --

DR. CROUSE: Well, it's irrespective of

risk category 1, 2 and 3. And the facility is -- when you read the risk categories, it's really risk category 2, not 3.

MR. ROSSMAN: Gotcha. Thank you.

DR. CROUSE: But it doesn't -- it doesn't matter in terms of the seismic design category, which is the most important category for determining the seismic design loads and the detailing that goes into the structures.

MR. ROSSMAN: So I thought I recalled that there was a difference between some -- some factor that was applied in risk category 2 and 3, and I think 2 was 1.0 and 3 was 1.25, and maybe I'm misremembering that.

DR. CROUSE: No. That might be the importance factor, which comes into play, but that's not the risk category.

MR. ROSSMAN: How does the importance factor relate to the seismic design standard? Can you just explain what those different categories are?

DR. CROUSE: Well, different structures will have different importance factors, so that's all been taken into account. The codes are pretty well -- they define what importance factors should be used, and so that's all taken into consideration. I don't

Page 52

remember the exact number that the applicant's using, but it's spelled out pretty clearly in the code.

MR. ROSSMAN: Can you just relate those concepts for me a little bit? The risk category, the importance factor, the seismic category, how do those interrelate?

DR. CROUSE: Well, going back to the risk categories, as I mentioned, they -- they don't have any -- 1, 2 and 3 don't -- don't affect the seismic design category. All -- regardless of whether it's 1, 2 or 3, you're in seismic design category D. It doesn't matter which one you assign.

But it -- the importance factor indicates -- it affects the load that you're using in the design. So it's either 1 -- I think 1.25 or 1.5 -- I'd have to go back and look -- but those factors would be used to scale the load up depending on what importance factor is assigned.

MR. ROSSMAN: And then I'm turning to a related -- related matter. I -- the question that came up in the context of the adjudication was water service lines to the facility and whether water supply would -- would still be available in the -- in a seismic event. Did your analysis look at that question at all?

DR. CROUSE: It did not.

MR. ROSSMAN: Okay. Thank you.

CHAIR MARCUS: Mr. Siemann?

MR. SIEMANN: Thank you.

And just following up on this line of questioning, do any of these categories, the risk category, the seismic design category, the importance factor, do any of those take into account degree of proximity to human populations?

DR. CROUSE: The risk categories -- I think I'd have to look at the definitions of the risk categories. I'm not completely familiar. I don't have the code in front of me.

But certainly the -- you know, if you had certain types of chemicals, hazardous chemicals, that certainly would affect the risk category. This is a facility that's -- does not have a high exposure in terms of public. The public's not going to be allowed on the facility. So in that sense, it would -- it would be a lower risk.

MR. SIEMANN: Okay.

And actually, the questions I was wanting to ask, if I may continue on, are actually about wake stranding, as this will be a -- not directed towards you.

And the question is, in the public comments on wake stranding, there was a contention that wake stranding was at a higher risk, actually, in armored areas of the river rather than unarmored areas of the river.

And I don't know if this is accurate or not. It was just a contention made in the public comments. But I wanted to ask, was that investigated? I know that the unarmored areas were looked at. Were the armored areas looked at in terms of risk of wake stranding?

MS. BETTS: Well, we basically had some studies that had been done, you know, as kind of like our background information as far as what's been identified as where stranding occurs and things like that. And the locations that were the -- that had been studied were, you know, those shallow -- shallower subsurface as well as, you know, shoreline areas where wake stranding was -- was -- and with certain other kinds of curves, et cetera, that resulted in quite a lot of wake stranding.

The studies -- at this point, the studies believed that you needed to have certain kinds of topographical features in order for stranding to occur.

That's what they were finding. And at this point, I would say, again, without necessarily having all the data, not looking to see if stranding occurred in where -- you know, where armoring has occurred, but that was -- those were considered to be the high risk locations for stranding. And I don't think -- I don't think armoring -- armored areas were as big of a concern.

MS. BUMPUS: No. I don't recall that there's any detailed discussion about armored areas specifically in -- on page 3-280 of the Chapter 3, Assessment for Aquatics, there's a map that talks about these points. But I don't think -- you know, these points where stranding has been observed, but I don't think that we have -- we're kind of looking in here now and we don't see anything that's discussing this topic specifically.

MR. SIEMANN: I believe the contention came from one of the agencies, perhaps DNR, perhaps Fish and Wildlife, so my expectation is that it was coming with some knowledge behind it. And again, I didn't notice anything in the EIS that sort of addressed that issue, so I was just curious.

The other -- just continuing on on that topic, it does note -- the EIS notes that Chinook make

up about 82 percent of the documented strandings, and that there are a number of other ESA species that are not surveyed, but it suggests there are potentially some ESA listed species that are going to be affected by wake stranding.

And the EIS lists a number of mitigation measures, but they are study and monitor and consider modifying habitat based on that, that -- those studies and the monitoring.

And what I'm curious about is what -- what habitat modifications might be possible to reduce wake stranding?

MS. BETTS: Well, first off, I believe the monitoring was the last step after implementing the mitigation. So the monitoring would be confirming that the mitigation was effective. Is that correct?

The study would be the part that determines exactly how much mitigation would need to be implemented in order to, in one, way, shape or form, mitigate the impacts of the proposal.

So we consulted with both DFW and we consulted with -- we had some conversations with, I believe, the services, or at least some -- maybe some email conversations, and least some information exchanged, as well as with our subject matter expert.

And some of the modifications that were suggested were possibly structures in those -- kind of like in the shallow areas, or basically along the shoreline, such that they would disrupt the wakes so that they would not actually move all the way up into the area, into the super shallow areas and up onto the shore, and create that kind of a wake that would push the -- push the juveniles up onto the shore.

I'm not -- I haven't heard that that's actually been implemented successfully, so that's -- that's just basically one of the possibilities.

Another possibilities [sic] are where it would be, like, habitat improvement off -- off the Columbia River, like in some of the side -- side channels, et cetera, and rearing areas, could even be wetlands, areas where the fish that would be stranded and lost by the wake effects would be, you might say, replaced by enhanced productivity in other locations along the Columbia River.

There's a lot of -- I won't call it exactly -- well, it is -- it is science, basically, but there's a lot of processes that the services and the -- and the fish biologists use to figure out what's an appropriate form of mitigation, you know, whether it's in kind, off site, all those kinds of

Page 58

factors that go into it.

So all those would -- all those considerations would have to go into the process. The monitoring would then be used to determine that, in fact, the mitigation in itself was effective.

MR. SIEMANN: Okay.

There's also a suggestion to slow the vessels. Do you have any data that suggests what speed would be appropriate in order to reduce the risk sufficiently?

MS. BUMPUS: No. We -- we don't have a discussion that gets into what the appropriate speed would be.

MS. BETTS: That is something, though, that was definitely identified by the services as an effective form of mitigation, should it be implementable [sic]. But as you probably noticed, that's not something that we could -- that we believe we could require. But if it -- if it were implemented in -- you know, in an effective way, then that -- that could substitute for the mitigation that we've identified.

MR. SIEMANN: So the exception of slowing the vessels -- correct me if I'm wrong here, but it sounds like we don't really have any data or

experience on the effectiveness of other mitigation measures to reduce wake stranding itself; is that accurate?

MS. BUMPUS: Can you repeat the question?

MR. SIEMANN: Well, the question is, do we have any data on the effectiveness of -- of habitat modifications, essentially, that would reduce wake stranding?

MS. BETTS: I would say no. At this point, it's basically a much newer impact that's been identified, and I don't believe that there's any record of mitigation having been implemented to deal with it.

MR. SIEMANN: Okay.

And on a similar but broader scale question, so this is obviously an ESA listed species. There are a number of ESA listed species in the Columbia River that would potentially be affected by this project.

Is there in the EIS anywhere a kind of assessment of the ESA -- the potential ESA-related impacts that we should be considering?

MS. BUMPUS: We're -- we're double-checking before we answer.

MR. SIEMANN: Okay.

MS. KIDDER: So we have a discussion in Chapter 3, specifically if you'll look at Table 3.6-2, it lists protected fish and species of concern in the study areas, in this case, predominantly along the vessel corridor, although it does have, you know, some rearing areas and whatnot along the rail and project facility areas as well.

We do have a discussion about impacts to fish overall, but specifically we do focus on some of the ESA-listed species and what the impacts to those would be.

MR. SIEMANN: Can you remind me the table again?

MS. KIDDER: Yes, it's Table 3.6-2, and you'll find it on page 3-228.

MR. SIEMANN: Thank you.

CHAIR MARCUS: Just following up on that for wake stranding, did you say one of the mitigation measures was replacement fish in another location?

MS. BETTS: Well, it would be enhancing the habitat in a -- in a different location. I believe those -- you know, on the Columbia River somewhere, probably -- I'm guessing could potentially be the lower 33 miles, but basically somewhere on the Columbia River, either in side channels or side

streams or wetlands that wouldn't be impacted. And it would be improving the habitat such that they would be more productive and be able to basically produce more, you know, for example, juvenile Chinook than they now produce.

CHAIR MARCUS: Thank you.

Other questions?

MR. SIEMANN: I have a few more, if nobody else --

CHAIR MARCUS: Sure.

MR. SIEMANN: All right.

This question addresses dock failure and -- and some of the seismic issues. And so the EIS notes that one of the larger potentials for failure in a large earthquake would be the dock area. And it offers mitigation measures that include finalize the details of the design, confirm that the dock structure is designed to withstand slope failure that could be triggered by an earthquake, which seemed a little bit vague.

And so what I'm asking here is, what are the dock design modifications that are possible to sufficiently reduce the risk of infrastructure damage and spill due to liquefaction or slope failure?

DR. CROUSE: Are you talking -- do you

Page 62

mean the modifications that have been made since the DEIS, or just --

MR. SIEMANN: What I'm --

DR. CROUSE: -- improvements in general?

MR. SIEMANN: So what I -- what I read in the DEIS was that failure around the dock in an earthquake was more likely than other areas. Let's just say I'm not sure what the right terminology there is.

And so the mitigation was suggested, and what I'm looking -- what I'm asking for is, what mitigation is actually possible to sufficiently reduce the risk of infrastructure damage as a result of a large earthquake in the dock area?

DR. CROUSE: Right. So let's go to some graphics. Just a second. Let's start with 41.

So the dock area is shown on the right, and we have a number of components comprising the dock. First, in the upper part, you see a lot of blue circles. This is the dock abutment, and this is going to support one end of the trestle. It will carry the pipeline to the ship.

So those blue circles, if you look at the key on the lower left, represent six-foot diameter jet grout columns that are banded together in a number of

rows. That was a design concept that the applicant had proposed early on.

In back of those jet grout columns, there's also deep soil mix panels. Both of these concepts, jet grout columns and deep soil mix panels, are soil-strengthening techniques to bring the soil up to a certain strength to resist not only the earthquake motion but the tendency for the embankment to fail.

However, along the embankment itself, just below that ground where the letter A is on that diagram, the trestle is on an embankment, and it's pile supported. So there are no soil improvements along the embankment.

However, since the DEIS, we were concerned about the strength of those piles to resist the possibility of slope failure that would put an additional load on the piles. So the applicant proposed to reenforce the existing piles along the dock area.

And if you go to slide 36, this is a bird's-eye view of the improvements that have been suggested since the DEIS. So look at the two color codings, green and red. They indicate the type of improvement that's being made to the existing piles.

By the way, these are locations of existing piles, and so there are two types of improvements. The first type is simply to reinforce the existing pile by inserting a smaller diameter steel pipe pile. The existing piles are all steel pipe piles. So the plan is to reinforce those piles by adding a smaller-diameter steel pipe pile that fits with inside [sic] the existing pile, and then grouting up the free space with grout.

The second concept is the same as the first, except it also adds a ground anchor which would extend from the bottom of the improved piles into the very dense soil. And this will tend to provide more uplift resistance during the seismic shaking.

So these are the new concepts that are being proposed, and we recognize that those are definitely an improvement over what they had before, which was no reinforcement.

So there's still some details to be worked out, but the concept has merit. And we can go to another slide which actually shows what these look like, and that would be slide 37.

So on the left -- or I'm sorry, on the right is a cross-section showing -- the outer circle is the existing pile, 18-inch outside diameter, and

the circle just inside it is the proposed modification, which is a new 14-inch diameter pipe pile. And then in between that, and also going toward the center is grout that fills the remaining area.

Then on the right -- or left -- sorry, thank you -- it also shows some of the piles that have the ground anchor that goes into the very dense soil. So that provides additional capacity for a tendency of those piles to uplift during the ground motion.

Does that answer your question?

MR. SIEMANN: It certainly gives me more information about what is planned.

So is -- are these changes or these design -- these designs, are they what was assessed in the FEIS document?

DR. CROUSE: Yes. They presented these concepts and we -- we looked at the results of their calculations and requested additional information, which we received, that provided additional confidence.

But we still feel that there's more work to be done to demonstrate the feasibility of this concept during final design. But we're -- me, personally, was satisfied with the amount of work they had done to go forward and do additional work in the

final design.

There's other options that may have to be implemented. They could increase the thickness of the pile they insert, for example, or they could reinforce more piles along the trestle where the embankment failure is going to take place if the earthquake is big enough to induce it.

MR. SIEMANN: So what's your sense, if they do all the things you are -- that they've agreed to thus far, and the things that you believe they can do when actually constructing this, what's your sense of the probability that it will not fail in the event of a significant earthquake?

DR. CROUSE: Well, we can never guarantee nothing will fail, but I think they can demonstrate that with the loads that -- the maximum loads that we anticipate, that the design will work, that they'll be under the capacity for catastrophic failure, which would potentially lead to a spill.

MR. SIEMANN: Right.

And so all of these changes, there are some now that are in -- that have been modeled in the DEIS, or assessed in the DEIS -- I'm sorry, FEIS, my apologies -- and then more that you're talking about. How do these actually get memorialized or in some ways

ensured that they are actualized?

DR. CROUSE: Well, we think it's important to continue the peer review to make sure that -- and the applicant has even indicated that they would like to see this peer reviewed as they go into final design should they get the go-ahead.

But I'm -- what I've seen to date gives me confidence that they can meet the requirements to eliminate the --

MR. POSNER: And if I could just add, you know, typically at this level of analysis of a project, you do not have full, complete engineering documents for the completed project. That's [sic] typically comes later.

And so I would say this project we're much further along in terms of the level of analysis based on a certain percentage of completion in terms of what we're looking at and trying to assess the impacts than probably most projects, or many projects are before an EIS is actually, you know, issued.

So there is -- there is some degree of unknown, if you will, but -- and typically, you know, the information that's needed to make those final decisions, if you will, oftentimes comes later, you know, after an EIS is issued; for instance, when

certain permits are issued.

In the case of EFSEC, it may be if a site certification agreement is issued, there are specific conditions that are specified that the applicant or certificate owner must meet before they could move forward with construction.

And if it's -- you know, if it's determined that there's going to be problems or issues that can't be resolved, then more analysis may need to be done. You know, there's situations where you might have to do a supplemental analysis of some sort.

So I think at this point, some of these questions, I think, can't be answered at this point in time just based on the amount of information that we typically have at this point in the review process.

MR. SIEMANN: Thank you.

CHAIR MARCUS: Any other questions from councilmembers?

Okay. Then I'm going to thank Staff for all of their work, and the consultants for the work on this FEIS and for coming here today to answer our questions. We appreciate that very much.

And that is it for our agenda, so if there's nothing else for the good of the order, we will be adjourned.

Thank you.

(Hearing concluded at 3:04 p.m.)

-o0o-

C E R T I F I C A T E

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

I, ANITA W. SELF, a Certified Shorthand Reporter in and for the State of Washington, do hereby certify that the foregoing transcript is true and accurate to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 1st day of December, 2017.

Anita W. Self

ANITA W. SELF, RPR, CCR #3032