Stobart Cross-Examination, PCHB No. P19-087c (4-23-2021)

Hearing - Day 9

Advocates for a Cleaner Tacoma, et al. v. Puget Sound Clean Air Agency, et ano.

April 23, 2021

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VIDEOCONFERENCE HEARING

DAY 9

Pages 2049 - 2329

OLYMPIA, WASHINGTON

April 23, 2021

9:01 a.m.

REPORTED BY: CRYSTAL R. McAULIFFE, RPR, CCR 2121

C R O S S - E X A M I N A T I O N

BY MR. THOMAS:

Q. Good morning, Mr. Stobart. I would like to started off by talking about the 88 percent non-H2S sulfur assumption.

Do you remember talking about that yesterday?

A. Yes, I do.

Q. If you could, could you please pull up PSE 068 and identify that for the record?

MR. THOMAS: And, Your Honor, with your permission, I would like to put the exhibit up.

THE COURT: Yes.

MR. THOMAS: Okay. Thank you.

MS. DOLD: Mr. Thomas, can you repeat that exhibit number for me one more time?

MR. THOMAS: 068.

MS. DOLD: 068. Thank you.

BY MR. THOMAS:

Q. Mr. Stobart, can you identify this PSE document?

A. Yes, I can.

Q. And what is it?

A. It's basically the summary of the -- of the evaluation that we completed with regards to disposition of the non-H2S sulfurs within the facility.

Q. So this is the study you were talking about

yesterday that you said supported no more than 80 percent of non-H2S sulfur to the flare; correct?

A. That is correct.

MR. THOMAS: Your Honor, I move to admit PSE 068 into the record.

THE COURT: Any objections?

PSE 068 is admitted.

(PSE 68 was admitted.)

BY MR. THOMAS:

Q. And, Mr. Stobart, do you see the notes section below the table?

A. Yes, I do.

Q. Can you read Note No. 1 allowed for me?

A. It says, "Species breakdown represents the anticipated disposition for each component."

Q. Okay. And do you recall telling me at your deposition that based on this, 80 percent was a best guess at what the worst case would be for non-H2S reporting to the flare? It's not guaranteed; right?

MR. FRANK: Objection. I think that misstates his testimony. But Mr. Stobart can clear it up right now. So I'll withdraw my objection.

THE COURT: Okay.

THE WITNESS: Yes. I would not call it a guesstimate at all. We did a study using the UniSim to

determine after the gas has gone through the amine system and some of the sulfurs are removed by the amine system, which is what INEOS gave to us. Then we did a UniSim study for the remainder of it and where we thought it would go.

BY MR. THOMAS:

Q. The 80 percent is not guaranteed; fair?

A. It is not.

Q. And in facility operations, nothing will be done to verify the 80 percent assumption; correct?

A. That's correct.

Q. Okay. And can you also read Note 6 and explain the point of that note, please?

A. It says, "Higher feed concentrations of CO2 result in lower fraction of non-H2S sulfur being absorbed and directed to the flare from the amine unit."

And what that means is if you have a higher CO2 concentration that the amine unit will absorb even less non-H2S sulfur.

Q. And that will all report to the flare?

A. That's correct.

Q. Can you tell us what feed concentration of CO2 was used in the analysis -- of this exhibit?

THE COURT: Mr. Thomas, you broke up a little bit then. Can you repeat your question?

BY MR. THOMAS:

Q. Yes. I was asking, Mr. Stobart, can you tell us what feed concentration of CO2 was used in this analysis in this exhibit?

A. No, I can't tell you offhand. It's not on the sheet, and I'm not aware of what the number is.

Q. Let's change gears a bit. With regard to fugitives and components, you talked about not being aware of leakless components at any LNG facility. Do you recall that?

A. Yes, I do.

Q. Would it be fair to say that CB&I did not look into utilizing leakless components in the design or construction of the Tacoma LNG?

A. That's correct, yes.

Q. And you talked about tariffs yesterday as a limitation of what nonmethane compounds may be present in Tacoma LNG's feed gas. Do you remember that?

A. It informs that, yes.

Q. Okay. Can you tell us if there are tariffs for all compounds that could wind up in Tacoma LNG's waste gas?

A. No, the tariffs are on the pipeline. The waste gas is the product of the facility.

Q. I'm sorry. I was talking about feed gas. Can

you tell us if there's tariffs for all compounds in the Williams Pipeline feed gas?

A. No.

Q. Are there tariffs for benzene, to your knowledge?

A. Not to my knowledge.

Q. And you covered Tacoma LNG in some depth yesterday. Do you remember telling me at your February 16th deposition that no other CB&I designed LNG facility has ever employed a flare like the one at Tacoma LNG?

A. Not exactly like the one at Tacoma LNG but we have employed flares, yes.

Q. On the emissions testimony that you gave yesterday, I was a little mistaken in my recollection. I went back and looked. Before Landau's involvement, CB&I did estimate emissions for Tacoma LNG, did it not?

A. Yes. We were requested by PSE to do a convenience study before they had their consultant done, yeah.

Q. When CB&I did that work, it did not use AP-42 emission factors; correct?

A. To be honest, I don't know what we used. It's something that wasn't used by Landau for the permitting and -- it's faded from my memory.

Q. Do you remember telling me at your deposition that CB&I used vendor data and not AP-42 emission factors. It wasn't that long ago.

A. I believe that's what we did, yeah.

Q. And you told me at your deposition that CB&I provided that vendor data to Landau; correct?

A. That's correct.

Q. Okay. And you testified yesterday that CB&I had an obligation to design a facility that meets PSCAA's permit requirements; correct?

A. That's correct.

Q. Okay. And based on that -- do you remember telling me at your deposition that in the event the Agency were to require something during permitting that the facility didn't currently meet, that a design change may be needed?

A. Yeah. I think I probably said that.

Q. Okay. All right. And you talked at some length about UniSim yesterday. And that's the process simulator used to design the Tacoma LNG facility; right?

A. That's correct.

Q. Okay. And did you run the UniSim modeling yourself?

A. No.

Q. Okay. And when a simulation is run in UniSim,

does it produce an output file or report?
A. Yes, it does.
Q. Okay. And UniSim is proprietary; correct?
A. Anybody can go buy it. So, no. The outputs from CB&I used for UniSim is proprietary, yes.
Q. Do you remember testimony yesterday regarding a confidential document that was produced and was inadvertently put up on the screen last week?
A. Yes.
Q. During the hearing.
A. Uh-huh.
Q. And that was a heat and mass balance that you were discussing; correct?
A. Yeah. We commonly call it a heat and material balance, yes.
Q. Okay. Was that a direct output from UniSim or was it put together by CB&I with data taken from UniSim reports?
A. It's data from -- directly from the UniSim reports.
Q. Okay.
A. Both the inputs and the outputs.
Q. So it's not a direct output?
A. It's a CB&I drawing, and so UniSim doesn't generate CB&I drawings. They generate the data. We put

the data in the CB&I drawing.

Q. Got it. Okay. And you talked about the bracketing being developed by UniSim; correct?

A. That's correct.

Q. And these bracketing cases do not provide the full picture. For example, UniSim did not address what happens to BTEX coming into the facility through Tacoma LNG's feed gas; correct?

A. That's correct. BTEX is in parts per billion in the incoming feed gas, and UniSim can't deal with minute trace elements like that.

Q. All right. And as another example, the only sulfur compound that UniSim attempted to address is hydrogen sulfide; correct?

A. No. We got the disposition of the hydrogen sulfide from the amine supplier who basically said, none of the hydrogen sulfide is going to make it through the amine system and it is all going to end up at the flare.

Q. Maybe my question was a little unclear. UniSim doesn't tell us anything about any sulfur compounds other than hydrogen sulfide; correct?

A. That's correct.

Q. Okay. And those bracketing cases are what CB&I thinks will happen. They are not guaranties that those cases, in fact, bracket the flaring that will occur at

Tacoma LNG; correct?

A. If you're talking about a commercial guarantee, no. But I filed a declaration on Case 5 why I think it is the high BTU case for the flare.

Q. Why you think it is?

A. Why I know it is.

Q. And the UniSim modeling does not perform emission calculations; correct?

A. That's correct.

Q. Okay. And UniSim does not model combustion; correct?

A. That's correct.

Q. It only tells you what is going to the flare?

A. That's correct.

Q. Okay. And do you remember telling me at your deposition that the modeling has not been validated with actual field data?

A. Not for the Tacoma LNG facility, because we haven't run it yet. But it's been available on plenty of other facilities, yes.

Q. Now, let's change gears and you and Mr. Frank talked at some length about change orders and the 99 percent destruction.

So if you could, let's talk a little bit about PTI 219, please.

And if you could please identify this exhibit for the record.

MR. THOMAS: And, Your Honor, with your permission I would like to put the e-mail on the screen to look at it with the witness.

THE COURT: Yes.

MR. THOMAS: Thank you.

BY MR. THOMAS:

Q. Mr. Stobart, do you see that you're a recipient of the e-mail that is Puyallup Exhibit 219 and are you familiar with this e-mail?

A. Yes. Yes.

Q. Can you identify what it is, please?

A. Just give me a second to go through it a little bit more.

Q. Certainly.

A. Okay. Yeah. This is an e-mail from Bill Steiner of Landau asking us to -- asking CB&I to go back to LFG, their flare vendor, to get a description of -- of the vapor destruction for the flare unit.

Q. Okay. And can you read aloud the third sentence of the first paragraph starting with "Ralph requested"?

A. Yes. Ralph requested that we find out from the flare vendor what the technical basis is for the destruction efficiency spec that's cited in PSE's air

permit application.

Q. Okay. And is it your understanding that the Ralph being referenced here is Ralph Munoz of the Agency?

A. Yes.

Q. Okay. And pursuant to this request, I think you just said that you procured the LFG letter for PSE; correct?

A. Yes, we did.

Q. Because you were told the Agency wants it; right?

MR. FRANK: I'm going to object to foundation here, Your Honor. This is an e-mail from Bill Steiner. Mr. Thomas is asking essentially what Bill Steiner meant or suggested when we wrote this e-mail, and this witness is not the person who can answer such question.

MS. DOLD: We also object that it mischaracterizes the testimony from Mr. Stobart.

THE COURT: Mr. Thomas, do you want to rephrase.

MR. THOMAS: I kind of don't. I asked the witness about his personal knowledge about procuring the letter. I just asked him if it was because he was told the Agency wanted it. I was asking him a question about

his procurement activities of the letter. I'm not even asking him about the text of the e-mail at this juncture.

THE COURT: I'll allow it.

Go ahead, Ms. Dold.

MS. DOLD: I would just say that the phrasing of the question is also contributing to the mischaracterization of the testimony. That is not what Mr. Stobart just said. That is what Mr. Thomas is going to characterize what Mr. Stobart has said. So asking an open-ended question is one thing. Phrasing a question so that it plants a fact that is not in evidence is what I'm objecting to.

MR. THOMAS: Your Honor, this is cross-examination.

THE COURT: Well, I think you are characterizing it in the question. So how about rephrase.

BY MR. THOMAS:

Q. Mr. Stobart, did you procure -- and we can take the e-mail down.

Did you procure the LFG letter because you were told that the Agency wanted it?

A. I was told that PSE wanted it. I think -- yes, I'm not sure whether the Agency wanted it or not. We

had no conversations with the Agency. But we were asked to write the letter.

Q. Were you told by PSE -- were you told by PSE that PSE wanted it because the Agency had asked for it?

A. I think I -- it's in the e-mail that we just read that Bill is saying that the Agency wanted it. I don't know whether that's true or not.

Q. All right. Let's take a look at PTI 310.

MR. THOMAS: And, Your Honor, I'm sorry. I move to admit PTI 219.

THE COURT: Any objection?

MR. FRANK: No objection, Your Honor.

THE COURT: PTI 219 is admitted.

(APTI 219 was admitted.)

BY MR. THOMAS:

Q. And, Mr. Stobart, do you have Exhibit PTI 310 in front of you?

A. Yes, I do.

Q. If you do, I would like to talk about the e-mail that you sent on January 11th, 2019.

Do you see that?

A. Yes.

Q. Okay. And do you recall sending this e-mail?

A. I do.

Q. Okay. And this e-mail pertains to the flare at

Tacoma LNG, yes?

A. Yeah, I'd like to read it a little bit --

Q. In general terms.

A. -- if you don't mind.

MR. FRANK: While you do that. Your Honor, may I have permission to have Mr. Perloff put this up on the screen so I can follow along with the witness.

THE COURT: Yes.

THE WITNESS: Okay.

BY MR. THOMAS:

Q. I want to ask you about some language about halfway down in the first paragraph where it says, "given the smaller amount of heavies."

Do you see that sentence?

A. Yes.

Q. All right. Can you read that sentence aloud for us?

A. I just need to read a little bit more in the context. Okay. Yeah. Do you want me to read that sentence?

Q. That sentence, please. Yes.

A. "Given the smaller amount of heavies in the product stream to the flare, we would still have plenty of room to obtain the overall 99 percent guarantee, even if the destruction efficiency for the heavies is

considerably less than 99 percent."

Q. Would it be fair to say that you understood on January 11th, 2019, that the destruction efficiency for heavies -- heavy hydrocarbons could be considerably less than 99 percent?

A. I think what would be fair to understand at this point is that I didn't understand. I -- this is -- this is me talking out of turn. I did not understand what the destruction efficiency meant, and I think you need to ask the guys who were the combustion and the emissions guys that question. If I thought, okay. You could do less on some and more on others and it's an average, I have no idea. I'm not an emissions guy. And this is me speaking out of turn.

Q. Okay. And you remember talking about a Change Order 118 B with Mr. Frank yesterday; correct?

A. That's correct.

Q. Okay. And this e-mail that you sent postdates that change order; correct?

A. What's the date here? Yes, it does.

MR. THOMAS: Your Honor, I move to admit PTI 310, please.

THE COURT: Any objection?

MR. FRANK: No, Your Honor.

THE COURT: PTI 310 is admitted.

(APTI 310 was admitted.)

MR. THOMAS: Okay. We can take the exhibit down.

BY MR. THOMAS:

Q. And, Mr. Stobart, I would like to talk about PTI 323 please. 323.

MR. THOMAS: And, Your Honor, with your permission I would like to have Mr. Perloff put that up on the monitor.

THE COURT: Yes.

MR. THOMAS: Thank you.

BY MR. THOMAS:

Q. All right. And, Mr. Stobart, can you please identify this exhibit?

A. It's an e-mail from me to Thomas Mullen and Sandra Schiller who were -- Thomas Mullen is the process design engineer for the project. And Sandra Schiller was helping out with some of the emissions information that was being passed on to Landau.

Q. Okay. I'm wondering if you can read aloud the text of the e-mail that Mr. Mullen sent to you on July 26th, 2017.

A. Yes. It says, "Do we need to broach the inability to achieve optimum combustion temperature residence in the turn down condition."

Q. Okay. And that e-mail pertains to the enclosed ground flare at Tacoma LNG; correct?

A. It does.

Q. Okay. And can you also please read your subsequent response aloud?

A. Yes. It says, "I don't think we should open with that. Let's leave it vague, otherwise it could start them down a path of a second flare to optimize the second stack to the small burners."

Q. And today, Tacoma -- excuse me, Tacoma LNG has one flare, not two; correct?

A. That's correct.

Q. Okay.

MR. THOMAS: Your Honor, move to admit PTI 323.

THE COURT: Any objection?

MR. FRANK: No, Your Honor.

THE COURT: PTI 323 is admitted.

(APTI 323 was admitted.)

BY MR. THOMAS:

Q. Okay. And, Mr. Stobart, just a few more questions. You were discussing Tacoma LNG's throughput as a limitation on emissions.

Do you recall that?

A. No. Not -- no.

Q. Okay.
A. Which throughput are we talking about? The LNG production throughput or what?
Q. Yes. Do you recall discussing that yesterday with Mr. Frank as one of the reasons why its -- its emissions could not exceed a certain amount?
A. Well, I recall discussing that Case 5 was based on a 275,000 gallon per day production rate. And that is what set Case 5. And we're permit limited by 250,000 gallons per day. So it's added a contingency what Case 5 is.
Q. If throughput goes up, do emissions go up? Is that the gist?
A. No, not necessarily. It depends on incoming feed gas composition as well.
Q. Okay. Okay. Assuming constant feed gas, if throughput goes up, do emissions go up?
MR. FRANK: I'm just going to object for foundation here. We've established that Mr. Stobart did not do any emissions calculations that was done by Landau. So I don't think there's any foundation for that question.
THE COURT: Mr. Thomas.
MR. THOMAS: Yeah. Your Honor, there was extensive discussion yesterday about how the facility

works. Mr. Stobart is probably more familiar with this facility than anybody. And I'm trying to understand his testimony yesterday about -- about throughput and why -- why it's relevant to the testimony he's provided in this case thus far.

THE COURT: I'm going to allow it.

THE WITNESS: Okay. Can you ask the question again?

BY MR. THOMAS:

Q. Yeah. I'm wondering if -- assuming feed gas remains unchanged, does Tacoma LNG emissions from the flare go up if -- if it increases the amount of LNG that gets produced?

A. Not necessarily. Because we have another lever to pull, too. We can change the knockout temperature on the heavies knockout heat exchanger and have a higher throughput and less waste gas going to the flare from the knock out. It's not -- it's not set and constant. So you can adjust that as well.

Q. Okay.

MR. THOMAS: Those are all the questions I have for you at this time, Mr. Stobart. I appreciate your time.

THE COURT: Okay. Mr. Frank, redirect?

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