BEFORE THE U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ADMINISTRATIVE LAW JUDGES

In the Matter of:)
)
ENVIRONMENTAL PROTECTION) OPA-09-2018-00002
AGENCY,)
)
Complainant,) Administrative Law Judge
v.) Susan L. Biro
)
VSS INTERNATIONAL, INC.,)
)
Respondent.)

Courtroom 15, 18th Floor
Phillip Burton Federal
Building and United States
Courthouse
450 Golden Gate Avenue
San Francisco, California
Monday,
May 20, 2019

The above-entitled matter came on for hearing,

pursuant to notice, at 9:06 a.m.

BEFORE: HONORABLE SUSAN L. BIRO
Chief Administrative Law Judge

APPEARANCES:

For the Complainant:

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I N D E X

E X H I B I T S

PROCEEDINGS

(9:06 a.m.)

JUDGE BIRO: Good morning. Please be seated. Is everybody ready to proceed? Okay. We're going to go back on the record.

I think, Mr. McNeil, you were going to call your next witness?

MR. MCNEIL: Yes, Your Honor, we're ready to do so. And Respondent calls Mr. Lee Delano.

JUDGE BIRO: Would you please remain standing, Mr. Delano, so the court reporter can swear you in?

THE COURT REPORTER: Will you please raise your right hand.

Whereupon,

ART LEE DELANO

having been duly sworn, was called as a witness and was examined and testified as follows:

THE COURT REPORTER: Thank you. Please have a seat. And for the record, would you please state and spell your first and last name?

THE WITNESS: Art Lee Delano, A-R-T, L-E-E, D-E-L-A-N-O.

THE COURT REPORTER: Thank you.

JUDGE BIRO: Please proceed.

DIRECT EXAMINATION

BY MR. MCNEIL:

Q Good morning, Mr. Delano.

A Good morning.

Q May I ask you first to let us all know by whom you're currently employed?

A I'm employed by WHF, Incorporated, an environmental and engineering firm.

Q All right. And what is your job description at WHF?

A Two. I'm Vice President of the corporation, and I'm the engineer on staff.

Q Okay. And how long have you been associated with WHF?

A Since the mid-1990s, so 20-plus years.

Q Okay. And prior to your affiliation with WHF, did you hold other employment positions?

A A few. I worked for Modesto Irrigation District for a period of time. They were both an irrigation supplier and electric supplier, so I got to work on a multiple number of projects for them.

Q What kind of projects did you do for Modesto Irrigation?

A We would do power facilities, and there was a mixture. We did gas turbine plants, we did power

transmission plants, and we did hydroelectric plants.

Q And what typically would be your role, say, for example, with a hydroelectric plant?

A It varied a little bit. We did some inspections on an existing large facility, and then we did design new facilities. We had two or three new facilities I was involved with.

Q And if you were involved in the design, what typically would be your responsibility or the tasks that you'd be responsible for?

A Again, it would vary a little bit. Some of the smaller projects, I got to act as the actual design engineer. The larger projects, we would typically use a third-party consultant to do designs if it's just too large for our smaller firm to do. Then I would review the contracts, be the contract -- the project manager, so to speak, make sure the project got done properly.

Q Okay. And other than -- how long were you at Modesto Irrigation District?

A I think that was 17 years or so. And then, previous to that, I was with Caltrans. I was in the Bridge Department, and we did bridge design essentially.

Q Okay. For Caltrans?

A Yes.

Q That's the California Department of Transportation?

A Correct.

Q A state agency?

A Bridge Department, yes. It's a separate department.

Q The Bridge Department would be involved with the large infrastructure bridges that you see throughout the California roadways?

A Yes, typically the freeway system, yes.

Q Freeway system?

A Right. We did a variety of bridge types, concrete, steel, different types.

Q And what was -- what kind of job responsibilities or duties just in general did you perform while you were at -- employed by Caltrans?

A That was sort of in my young career, so it was more of an intern arrangement that I was learning the business, so to speak, and learning their methods and processes.

Q Okay. And was Caltrans your first or one of your first jobs after you finished your education?

A That's correct, yes.

Q Okay. And can you briefly outline your

education for us, starting with your undergraduate studies?

A I graduated from Fresno State with a degree in civil engineering.

Q Is that a Bachelor of Science?

A Yes.

Q And what was your -- did you have a major or a minor emphasis of study?

A I had an emphasis in surveying and structures.

Q And structures including -- would that include concrete structures, steel structures, things of that nature?

A Yes, just in general, so, from a theoretical aspect, we would analyze structures, just the general structure, trusses, bridges, houses, buildings, just in general.

Q And do you have any licenses or certifications related to engineering?

A I hold two professional licenses. I hold a license in civil engineering and I hold a license in agricultural engineering from the State of California. They're both active.

Q Okay. And has your civil engineering license been active without interruption since 2014?

A I think since 1973.

Q Okay. And since the time that you've been employed by WHF, have you been involved in the preparation of or review of what are called Spill Prevention, Control, and Countermeasure, SPCC, plans?

A Yes, I have.

Q Okay. And do you work with Ms. Kari Casey, who testified the other day, on those kind of plans?

A I do, very closely.

Q Okay.

A And, typically, I lend the technical support that she doesn't have, so I'll do some of the site surveying that's required for those plans.

Q All right. And any engineering review that's required?

A That's correct.

Q Okay. And Ms. Casey, I think, indicated that she had worked on a number of SPCC plans, somewhere in the, you know, couple dozen or more range. Would the same be true for you?

A That's correct. She's been our point lead, and I am her major technical support. There's no other engineer on staff, so I've done all of her reports, essentially.

Q Okay. And if you work on a report with Ms. Casey that requires an engineering certification, would that also fall to you to stamp and sign the plan?

A Yes, it does.

Q Okay. And in so doing, would you review the work that she had done and, before you sign it, satisfy yourself that, you know, you approved it and it was good to go out under your signature?

A Yes, in each case.

MR. MCNEIL: Okay. Your Honor, I would move to qualify Mr. Delano as an expert in two areas: one, civil engineering, and secondly, preparation of SPCC plans.

MR. HELMLINGER: No objection for those specific expertise.

JUDGE BIRO: So qualified.

MR. MCNEIL: Thank you.

BY MR. MCNEIL:

Q Mr. Delano, let me ask you if there came a time in the last few years where you were asked to become involved in the SPCC plan that was undergoing preparation or review by WHF for the -- there's a photograph there in front of you there -- the VSS facility in West Sacramento?

A Yes.

Q Okay. Do you see it? I think it's CX-1.

MR. HELMLINGER: It's written in black at the bottom. It is CX-1.

BY MR. MCNEIL:

Q Okay. So are you able to see the aerial photograph that's been identified in this matter as CX-1 as that photograph there?

A Yes, I do.

Q Okay. And do you recognize that as the VSS West Sacramento facility?

A Yes, I do.

Q Okay. Have you visited the facility?

A A couple, few times. The first time I was on site, Kari had asked me to do a topography of the tank site specifically for work that she wanted done.

Q Did you have an understanding of what work she was undertaking that she asked you to help out with?

A I really didn't know the background too much. She indicated we needed site information for flow, and, typically, we're looking at storm flow. We did the topography. I have an instrument that I use, so I was on site, and I took topography shots on the site. We didn't do -- it wasn't all-encompassing. She wanted me to focus on the tank, the secondary

containment, and some of the storm drains that were north of the tank, and there's a railroad spur to the west of the tanks, and so we took detailed information of that area.

Q Okay. And when you say the tank, just, of course, there are a number of tanks on site, but were there any tanks in particular that she wanted you to focus on?

A Yeah. At that time, I think the first time that we were there, I'm not sure if both tanks were there. This is the two and a half million gallon tanks, the two large white tanks in that photo.

Q The two large white tanks just left of center --

A Right.

Q -- in the photograph?

A Right.

Q Okay. And if I said those tanks have been designated with tank identification numbers of 2001 and 2002, does that sound familiar to you?

A It does.

Q Okay. And those are the tanks that you were interested in or that Ms. Casey was interested in having you survey and look at in particular?

A Right, and the surrounding topography.

That's what I say, the parking lot area, we took some shots on. We didn't concentrate -- there's two buildings that can be seen on the right-hand side of the photo. We did not do any topography to the right-hand side. We focused on the tank area slightly to the south but mostly to the north in that storm drain area.

Q Okay. We'll move on in a second, but while we're all looking at CX-1, could you just, because of your familiarity, how many times actually have you been to the site to the best of your recollection?

A A minimum of two. I don't really know, but a minimum twice.

Q Okay. Can you just kind of for everybody's benefit, just describe the physical observations that you made in and around the area of the two large tanks, 2001 and 2002?

A Sure. Immediately around the tanks, there is a depressed area that's surrounded by a retaining wall, the secondary containment. The asphalt around that secondary containment is a little bit higher than the depressed area where the tanks are. There are graded areas around the tanks; that is, it's not level there inside the containment. There are some contours inside that containment. Outside the containment,

there is typically hardstand; that is, it's typically paved with asphalt. So we looked at those areas. And then we wanted to see sort of the surrounding areas. We took a couple of shots on the railroad spur that's off to the left. And then, like I said, we went to the north. It's undulating. There are some storm drain catch basins in that parking lot area, you see, with all the trucks there.

Q And what about to the south, generally the south, I guess, south/southeast; in other words, the direction between the tanks, the two large tanks and the shipping channel shown in the bottom right portion of the photograph?

A Generally, there's an access road that's adjacent to the secondary containment. That's a paved road, which is some 15 feet wide. Beyond that, towards the channel, there is a storage area typically for vehicles and material, and that area is about 50 feet wide, and then it's bounded by a concrete set of K-rails that essentially are at the property boundary.

Q Okay. And what's the general topography from the southern boundary of the tank area to the top of the levee where the vegetation is shown there?

A Generally, it slopes up from that southeast containment wall, slopes upward. We did not shoot the

top of those rails, and we did not go to the property line with our topography. We stopped short. We just want to know the general storm flow, and it generally flows to the north towards the street.

Q Okay. And we can look at one of your figures here shortly, but do you have a recollection of what the general change in grade, upward change in grade, from the tanks to the top of the embankment would be?

MR. HELMLINGER: Objection. Calls for speculation. He testified he didn't measure it.

JUDGE BIRO: He can estimate based on his expertise if he feels comfortable.

THE WITNESS: It's about a foot and a half.

BY MR. MCNEIL:

Q Foot and a half rise in elevation?

A Yeah. It's what we measured on that ground where those vehicles are parked, about a foot and a half from the access road next to the containment structure up to that dirt area.

Q Okay. So the foot and a half is what? That's the extent of what you actually measured?

A Correct.

Q Okay. And then could you, Mr. Delano, just go back for a moment to this description that you had

given us briefly about the depression area around the tank and the -- in other words, you described the secondary containment wall around the tank storage area?

A Correct. It's not level inside that containment, the secondary containment wall. That is, there's a high spot between the tanks that runs north and south between the tanks, and then, as storm water falls in that containment area, it flows away from the tanks towards the corners of the containment area, and then the facility then can pump that storm water later.

Q Okay. So then --

A It ponds there in the corner.

Q Okay. So the man-made, to be clear, the man-made depression, is there a portion of the man-made depression that you're referring to that does not contain or it does not have as part of it the secondary containment of the concrete wall?

A There's only one small opening, sort of at the southeast corner, there's a vehicle access gate that's not a concrete wall.

Q Okay. And what about, is there a portion of the tank storage area that is at grade or below grade?

A All of that concrete wall that's secondary

containment is above the outside asphalt some distance.

Q Okay. And what about within the tank pit?

A Within the tank pit, it's depressed somewhat. Like I say, it's not consistent. It's unlevel because there's a low spot on one side.

Q But a portion of that is below grade?

A It is.

Q Okay. So the portion that is below grade, is that what you're referring to as the man-made depression?

A Correct.

Q Okay. And meaning that if the secondary containment were to fail, that would not -- the man-made depression would still be there?

A Correct.

Q Okay. And why is that?

A There's a difference of about two feet average, if you look at averages, that's below that grade. So even though the top portion of the wall you make magically disappear, then there would still be a very large bathtub there in that man-made depression.

Q That's below grade?

A Below grade.

Q So, in other words, it cannot fail?

A Right.

Q Okay. And do you recall that there came a time where there was a SPCC plan that Ms. Casey had drafted and then presented to you for collaboration for this site?

A Yes.

Q Okay. And what was your role in working, you know, working with her on the SPCC plan?

A Mainly drainage, so a portion of that is a discussion about drainage and where any spills might go on property. If we have spills on property, then we want to know where that material would flow. So we were concerned about the general site conditions, general topography, and so she asked me to do that.

Q Okay. Did you -- let me ask you to turn to one of the exhibits, CX-17, in the binder before you. Let me know if you see that, CX-17, the binder that has No. 17 in it?

A Okay.

Q And if you could flip to page 29?

A Yes.

Q Do you see a Engineer -- Professional Engineering Stamp on that page?

A I do.

Q Do you recognize that?

A That's my signature.

Q That's your signature, and also is that your stamp?

A It is.

Q As valid at that time?

A Correct.

Q Okay. And that you reviewed this report and signed it and made the attestation that's indicated above in this Section 5.1.2?

A Correct.

Q Okay. You may be familiar that there's been some question raised about the adequacy of this attestation, in particular that there are two things that are not actually spelled out directly under 5.1.2, one being that you had reviewed the Fletcher report and, two, that the plan was adequate for the facility. Have you been told that that criticism has been levied at this report?

A You had mentioned it to me in the last couple days. That's all.

Q Okay, that's fine. Do you have -- are you able to share with everybody here whether you, when you signed this, whether you had reviewed the Fletcher report and intended it to be part of this document?

A Yes, I had reviewed it, and it is intended

to be part of the report. The Fletcher report is appended to this, so I would assume that it is intended to be included. There is text interior here in the report that refers to the Fletcher report in a couple of, three different places, in the text.

Q Can you show us one or two of those spots?

A Sure. One of the first references is under our Section 5.3.1 entitled "Bulk Storage Container."

Q Let me just stop you. I apologize, Mr. Delano. Are you looking at CX-17, page 42 of 131 or maybe page 41?

A Yeah, 41 is the title, and then the text is on page 42.

Q Okay. And where on 42 are you looking?

A There's a subparagraph A that says "Tank Construction."

Q And what does that say?

A And then that goes on to say, "All tank construction information is provided in the Integrity Testing Program for bulk storage containers written by Fletcher Consultants, Inc., located in Appendix E."

Q Okay. And did you say there was another reference that you had spotted in your re-review of this report?

A I think there's a couple. Then, on page 44,

under 5.3.3, Inspections and Recordkeeping, there are a couple of references to Appendix E in that first paragraph and then Appendix D at the very bottom of the page.

Q Okay. That's on page?

A Forty-four.

Q CX-17, page 44?

A Correct.

Q Okay.

A And then, on CX-17, page 45, under Inspections and Tests, there's another paragraph where there's a reference to Fletcher Consultants in Appendix E.

Q And that's under Section 5.3.3(b), correct?

A B as in boy, correct.

Q Okay. And I think I asked you this, but was it also your intention that this report be deemed adequate for the facility at the time it was issued?

A Yes.

Q Okay. Let me ask you to -- let me ask you if there came a time that Ms. Casey asked you to become involved in an analysis of whether a facility response plan under the regulations was required for the VSS West Sacramento plan?

A Yes, she did. She had been in some

conversations with I think both Randy and some others and indicated that we might have to do an FRP study for the facility here at VSS.

Q Okay. And did you -- by you, I mean WHF -- ultimately prepare a document that was entitled Substantial Harm Criteria in 2015?

A Correct, we did.

Q Okay. And you participated in the preparation of that document?

A I did.

Q Okay. Let's take a -- let's turn to that and take a look at that, and I think we've had that before, referenced by other witnesses. But it's CX-23, and it's pages 1 through 41. And just, if you would, take a look at the first page of that once you have it before you.

A What was the page number?

Q You have CX-23?

A Yes, I do.

Q Okay. Well, first, just take a quick peek at page 1.

A Sure.

Q Okay. Is that, where it says "Prepared by A. Lee Delano, PE and Kari L. Casey," is that correct?

A That's correct.

Q It was prepared by both of you?

A Yes.

Q Okay. And it's dated June 23, 2015, you see that?

A Correct.

Q Okay. So now, if you would, turn to page 5 at Section 2.1.1.

A Yes.

Q And can you take a look at Table 1 and just briefly describe for us what Table 1 is intended to reflect in terms of information?

A Table 1 is to reflect that there was a volume that we calculated that was part of the man-made depression inside of the containment walls, and the volume was 1,400,000, approximately 60 percent of the tank, of the total gross tank volume.

Q Okay. That, where you mentioned man-made depression just a moment ago, is that the same area that you described for us earlier that has the man-made depression surrounding the tanks that was at or below grade?

A That's correct.

Q Okay. So at or below grade is 1.4 million or close to it?

A Yes.

Q As reflected here?
A Yes.
Q Okay.
A That was consistent, by the way, with the details shown by H&A. They had a detail of the wall that seemed to be consistent with that.
Q Okay. And there was a reference above, in that same Section 2.1.1, about the 2.38 million gallon tank being a vaulted tank. What does vaulted mean in that context? It's on the first line.
A That it's set inside a secondary containment.
Q In this case, meaning the man-made depression plus the concrete walls?
MR. HELMLINGER: Objection.
JUDGE BIRO: Overruled. Go ahead.
BY MR. MCNEIL:
Q So the question was, meaning the man-made depression and then the above grade concrete wall?
A Correct.
Q Okay. And Mr. Delano, as for the tank itself, Tank 2001 in this case, are you -- do you have any information about how that tank is constructed?
A Yes. Mr. Tilford sent me some drawings I think that were from the fabricator and showed details

of the tank, the plates, and the steel involved in its construction.
Q Okay. I'd like to ask you a question, because the question's been raised, a very legitimate one, about the various scenarios that could occur during a tank rupture. And what I'd like to do is see if you can explain for everybody how -- for example, you know, one theory is the entire contents of the tank could be empty along the vertical seam, top to bottom, in one direction. Is that something that you would consider to be realistic or reasonably realistic?
MR. HELMLINGER: Objection, foundation.
MR. MCNEIL: Your Honor, I'll get to that. I'll make an offer of proof on that.
JUDGE BIRO: Sustained. Lay your foundation, please.
MR. MCNEIL: May I ask permission to have the witness draw the tank detail on the easel for us?
JUDGE BIRO: Of course.
MR. MCNEIL: Okay.
BY MR. MCNEIL:
Q Mr. Delano, if you would, if you wouldn't mind, if you could just flip over that page, because I think we've got photos.

JUDGE BIRO: Do you have a marker for him?
MR. MCNEIL: Is there a marker up there? Okay.
THE WITNESS: So, generally, there's circular tanks. The perimeter of the tank is welded steel plates, and then, if you look at the elevation view of the tank --
BY MR. MCNEIL:
Q Sorry, Mr. Delano, I apologize.
A Sure.
Q But, if you recall, we need to have a little bit of a roadmap on the drawing, so can you give it a title?
A Sure. Let's say this is 2001 tank.
Q Is that -- would that be considered plan view, or what would you call that?
A Yes. This would be the white view that we're seeing here on CX-1.
Q Okay. Just write -- is it plan view, is that an okay term?
A Sure.
Q Okay.
A This would be the elevation view.
JUDGE BIRO: That's the bottom drawing, correct?

THE WITNESS: Yes. There is a steel-plated bottom, and then there is steel-plated sides, and there is a steel-plated top. The construction technique of these is that the plates are set in place. These plates each are like eight foot tall. This is way out of scale -- sorry -- and then the next plate would be set up and welded, and then the next plate would be set up and welded.
BY MR. MCNEIL:
Q I'm sorry, Mr. Delano. I just want to make sure the record's clear.
A Sure.
Q When you say the next plate and the next plate, you're now referring to these sort of rectangular block kind of drawings that you're doing within the elevation view, is that right?
A That's correct. So let's label the plates A, B, C, and so, along the circumference, you'd have a plate A and then you'd have a plate B, say, and then et cetera. So, from a construction standpoint, you set the bottom plate up in place in a circular fashion, weld the circumference all together, and then you set the next set of plates on top and weld that circumference all together, and then you continue 'til the top of the tank is constructed.

Q Does that mean the plates are not vertically aligned?
A That's correct. They're always offset. That's a typical for tanks, is that they're offset, and it's to avoid any continuity, so if there's any weakness in say, this particular seam, then it wouldn't carry through. So it would always have to make not a smooth path.
Q And what would that mean for the case of a catastrophic or a worst case tank failure?
A You would assume that it would not fail in a linear fashion, that it would have to be in a jagged fashion from a stress standpoint. Certainly, there could be cases like corrosion or something, if you had a specific line that might create that, but, typically, that's not what happens. So this is just the way to avoid any continuity of stress.
Q Are there any other details that you received from the fabricator that would be relevant to this discussion of initial collapse or what you would expect in a worst-case failure?
A Sure. Part of those details include the construction of the roof. And you can see the roof here. It's already been installed. And it's a sloping roof, and these are large steel beams that are

attached to the top of the tank here. And then there is another structural apparatus that sits inside the tank. This is a very large steel structure here. And then there's actually a cone that was welded here. This is all steel welded. These are pretty large beams. The stand is 50 feet. I think they're --
Q Can you give those titles as you go through?
A Sure. This is a roof beam, and because of the sector portion of it, so, in a plan view, you have this center support, and then it's a radial construction, and so it looks like a patio umbrella sort of. You've got these large beams that hold up this steel plate on top. So there is a welded steel roof that lays on top, and then these relatively large steel beams are supporting that roof structure.
Q And can you give just whatever you believe is the best, for that center steel column that you mentioned, you show there?
A Yeah. As I recall, it was a 12-inch column, it is 12-inch diameter columns.
Q And what's that made of?
A Steel, so a steel pipe. It's not solid; it's a pipe, so it's hollow.
Q Okay. Thank you. And then I guess, on that same subject, would you mind taking a look at CX-9 --

I'm sorry, CX-8, and there's a Section 3.0.
JUDGE BIRO: What page are we on?
MR. MCNEIL: CX -- sorry, CX-23, page 8, Section 3.0.
THE WITNESS: Yes.
BY MR. MCNEIL:
Q Do you see that Section 3.0?
A Yes.
Q Okay. It's not long. Do you remind reading that 3.0 out loud, just the first part?
A "In order to perform the planning distance calculation, WHF modeled the complete failure of the tank whereby the entire side of the tank splits on a vertical axis, and the total tank volume is lost instantaneously."
Q Okay. So going back to what you explained to us a little -- and then it goes on. What does the last sentence there say?
A It says, "This type of failure is an absolute worst-case scenario."
Q Okay. So going back to the diagram that --
MR. MCNEIL: May we mark that for identification, Your Honor?
JUDGE BIRO: Sure.
MR. MCNEIL: I'd like to move it into

evidence if there's no objection.
MR. HELMLINGER: I do object.
MR. MCNEIL: It would, for identification, it would be RX-106.
MR. HELMLINGER: Objection. Fundamentally, it goes to foundation and relevance. I think that we're clear that the regs say model worst-case discharge, and his report models the worst-case discharge. Fabrication standards have nothing to do with the regulations.
JUDGE BIRO: Okay. Overruled. I'm going to admit 106 into the record.
MR. MCNEIL: Thank you, Your Honor, and I'll --
JUDGE BIRO: Can you mark it?
MR. MCNEIL: Yeah, I'll go ahead and mark it.
(The document referred to was marked for identification as Respondent's Exhibit No. 106 and was received in evidence.)
BY MR. MCNEIL:
Q So, Mr. Delano, we were looking at Section 3.0, and the report says that a vertical seam

instantaneous split would be an absolute worst-case scenario. Based on what you just told us, is that -- would that be your testimony?

A Well, my testimony, but, from a personal standpoint, I have difficulty with a direct failure. Certainly, the regulations say that, but, from a practical standpoint, it seems very, very difficult for that to happen.

Q What would be a worst -- what do you think would be a worst case -- based on the actual construction, what do you think would happen in a worst-case spill based on your understanding of how this particular tank is constructed?

A Assuming there's a breach in the wall, which I suppose can happen, a breach in the side wall skin, I still think that the roof would be attached. There might be significant deformations of the side wall or the outside diameter of the tank, but it would seem like the roof would be intact and would actually cause interference with any flow that might happen and would actually help hold the tank together, and the tank itself would interfere with flow; along with the steel pipe, it would cause interference with any flow. But we were instructed not to consider that in the analysis.

Q All right. So, if you assumed, as you do here in 3.0, an instantaneous release of the entire contents along a vertical axis, to the extent it's an absolute worst-case scenario, would you agree it's a very conservative one?

A Seems to be very, very conservative, yes.

Q Okay. And now, in the paragraph directly below where you were just reading for us, in 3.1, there's a reference to the model presented by Professor Guo. Do you see that?

A I do.

Q Okay. And is that a model that was used by WHF in performing its applicability analysis for this tank?

A Yes, it was.

Q Okay. And in the second or third sentence, I think, where it says, "These calculations are based on," do you see that? I think it's the third sentence?

A Yes, I do.

Q Yeah. Are those the general parameters of the Guo model that were employed by your firm in conducting its analysis?

A Yes, it was.

Q Okay. Can you just go through those quickly

for us, what those five components are, five parameters?

A Sure. Volume of the material, which means the volume of the tank, so the full 2,348,000 gallons of the tank. Surface area spread, that's the area that the material goes to. The thickness of the material; as it flows out, you have different thicknesses of the material. And an initial splash radius, the distance that the material might flow to, and the angle of the spill through the tank.

Q Okay. And with that fourth one, initial splash radius, can you describe for us what, in your view, that phrase means?

A Not very well. To tell you the honest truth, Kari was primarily responsible for the model. I have seen certainly her calculations, but she was involved in that. And, certainly, in this case, we felt that the material would be released from the tank, but it would fill up -- there would be sort of two phases. It would fill up our man-made depression first. You have to neglect the top of the wall. And then the secondary phase was that it would flow out onto the property boundary itself.

Q Okay. And assuming the Guo model did include as a parameter an initial splash radius, would

it be necessary in your view for one to consider and apply the model developed by Mr. Xiao for this applicability analysis?

A Certainly, we felt that this was adequate and would satisfy the requirement.

Q And the Guo model is, correct me if I'm wrong, is that published?

A I believe it is. I think it's available. I think we downloaded it and used it, so I think it's available to the public.

Q Okay. Turning back to page -- still in CX-23 -- turning back to page 5 in your section, Onsite Storage, 2.1.2, so this is CX-23, page 5, continuing on to page 6, can you just describe for us this section, Onsite Storage, what the intent of this paragraph and the calculations following in Table 2, what function they were supposed to serve as part of your analysis?

A We were trying to indicate that the onsite topography would allow additional storage of material. Those catch basins to the north are normally closed off; that is, they're sealed from immediate storm drain, but, if there is any material that would flow away from the secondary containment, there is volume available in the storm drain depressions, and so we

consider those man-made depressions of a certain volume. And so we calculated that based on our topography. And so the catch basins themselves seemed to have a storage of about 230,000 gallons. And then the railroad spur to the west also is a depressed area, and we felt that that area could also retain 287,000, almost 288,000, gallons of material.

Q Okay. So you considered the railroad spur -- again, the railroad spur contains, if I understand, a segment that is below grade?

A That's correct. It is, yes.

Q Okay. So you didn't count anything above grade, but you counted grade or below?

A That's right, depressed areas.

Q Okay. All right. And is there any sort of calculation in your report or --

A Yeah, we tried to show that in some of the appendices.

Q Can you show us, direct us to which one you're --

A Sure. At page 31.

Q Thirty-one of 41 in the CX-23 series?

A Correct. We tried to make a little depiction of the area. There's a little colored section there. The red filled-in circle is to

represent the tank. The blue area, there's a little rectangular blue area, that's to represent the railroad area. And then the orange area, the storm drain, the catch basins are not shown here on this little diagram, but that orange area represents the parking area and the areas out onto the site, but it does not include that area where the buildings are over on the right-hand of the picture CX-1.

Q Okay. And does this page 31 actually cross-reference or show the back-up for the calculations -- or the, sorry, the volumetric containment, onsite man-made depression containment numbers that we looked at a moment ago in the text?

A Yes. On the sheet, this was a copy of an Excel spreadsheet. You can see in the middle, bottom middle of the page, there's a railroad subtotal, and so that 287,000-plus gallons is shown. And then at the bottom of the page and center left is the three catch basin areas that are shown, and then with a total of some 234,000 gallons.

Q Okay. Sorry. Is the railroad spur the one that says "additional volume at railroad spur"?

A Where do you see that?

Q Center, about --

A Right, yeah, just below that, you'll see it.

It says "Railroad subtotal, 287,000."

Q Right. By the way, Mr. Delano, you've seen Mr. Michellin's report from August of 2016?

A I have.

Q Do you recall the first time that report was supplied to WHF, approximately?

A Seems like we were reviewing that in 2018. What date exactly, I don't recall.

Q Okay. To your knowledge, had you received a copy of it in 2016 or even in 2017?

A Not that I recall.

Q And then going back to page 6 of CX-23, there is a section that's called Natural Barrier for Sheet Flow. Do you see that?

A I do.

Q And there's a, about two-thirds of the way down, there's a sentence that reads, "In addition, a man-made berm has been constructed on the southern property boundary that consists of continuous berm constructed of K-rail and earthen berms for the protection of the channel." Do you see that sentence?

A I do.

Q Have you seen firsthand the K-rails that are referenced here?

A I have.

Q Can you describe for everybody your observations of, you know, what they looked like, their height or stead and so forth?

A Sure. K-rails typically are concrete, precast concrete curbs, essentially. The curbs are approximately three feet high. There's probably different standards, but, typically, they're about three feet. They are typically used for highway traffic diversions; that is, they use it for traffic control so you don't have interference between traffic, and so they're typically used for the diversion of large trucks. So they're rather heavy, and I think what I saw in one publication was each 20-foot section weighs four tons, I think. They're quite heavy.

Q Okay. And then, when you say "K-rail and earthen berms" in that, two lines up from the bottom.

A Yes.

Q What's the earthen berms part of that refer to?

A There's several areas along that south boundary that VSS uses to store bulk materials, that is, sand and gravels. It varies a little bit, so we didn't put any value on them as far as height and width and that sort of thing. We just wanted to

indicate that there was additional materials there that add to the whole stability of the bank.

Q Okay. And then the next section, 2.2, which is entitled Viscosity of Asphalt Cement, did you have occasion to look at the viscosity of asphalt cement as part of your review?

A I have, and it seems as though we tried to look at viscosities at 260 degrees. That seems to be the specification for the temperature of the material inside Tank 2001. And it appears that that viscosity is about 10 times that of water. And I think previously someone had mentioned motor oil. That's probably about the viscosity at 260 degrees, something in that magnitude.

Q Would that affect the -- we were talking a moment ago about initial splash, meaning the, you know, the initial deposit of material in the event of a catastrophic rupture or failure -- how would viscosity, if at all, come into play there?

A Yeah, I think there's certainly a general flow of material. It seems like splash is sort of a misnomer. It certainly does flow, and there's certainly momentum because of the potential energy of the material. It's a 40-foot tank; it's a pretty significant sized tank. So, when you fail it and you

have that much material, it certainly is flowing. Whether it's splashing or not, I don't know, but I guess that's a term that's already been used.

Q Well, it has been used, but it doesn't have to be your term, if there's a term that you would be more comfortable with.

A Yeah, I'd rather say oozing, but that hasn't been used, and gout isn't used, that term.

Q The 40-foot height you mentioned a moment ago, that's the tank height in its existing state, correct?

A That's the maximum height of the tank. The maximum constructed shell height of the tank is 40 feet.

Q If you were to follow your analysis that approximately 1,400,000 gallons were to be retained in the man-made depression, could you give us a corollary differentiation of what that would equal in terms of height of the tank?

A Yeah. Assuming that the tank is rather intact, there could be a split somewhere, but it's rather in that same circular shape, then the height of the material after the storage in the man-made depression is some 950,000 gallons. It amounts to about 16 feet, just a little over 16 feet in height if

it still stays in the circular containment.

Q All right. And Mr. Michellin talked about momentum, gravity and momentum being part of the analysis of what would happen. If the height is different, if it's, you know, as you're saying, on the order of, because of the man-made depression, on the order of 16 feet as opposed to 40 feet, does that have an impact on momentum?

A Yeah, momentum is mass times velocity. It seems like that velocity would be changed significantly.

Q Mass times velocity, what do you mean?

A That's the definition of momentum, mass times velocity, from a physics standpoint.

Q So what does mass represent?

A Mass would be the weight of the material.

Q The weight?

A The weight of the material is the mass, yeah.

Q And so you're saying at 16 feet, effectively 16 feet, the weight would be less than 40 feet?

A Correct, a lot less potential energy there to push the material around, yeah.

Q So would that impact the ability of the material ultimately then to overlap any of the

features on site?

A Yeah, that's our view, and that was sort of our conclusion, that because of all of those factors that it would be very difficult for that material to go into the channel.

Q And then turning for a moment if you would to the Viscous Flow Model Conclusions. That's Section 3.4, and that's CX-23 at page 11. And I think this is further to what you -- first bullet point -- I think this is further to what you were just speaking to a moment ago. But, to give it more context, you've got a statement here that says, "This means that a wave height of .57 would not overtop the natural grade, let alone the man-made berm on the southern boundary that is constructed to a height of three feet above grade level." Is that basically what you were saying a moment ago?

A Correct.

Q Okay. Can you tell us how you derived this -- the wave height of .57, is that something that's using the Professor Guo parameters to calculate?

A Yeah, and, essentially, that's phase two of that; that is, you fill up the man-made depression first. Then there's an additional flow beyond the

man-made depression, so you have a wave height of .57.
Q Okay. And then below that, in the next bullet point, you mention in the report about, just maybe a little bit more than halfway down, do you see a sentence that says, "The model represents the most conservative estimate of asphalt flow emanating from the site." Do you see that?
A Yes.
Q Okay. And then you go on to say, "Because we assume, one, that there is a complete tank failure resulting in instantaneous loss of the entire shelf capacity." Is that what you testified to earlier when you were talking about the way the tank was constructed and the amount of momentum and those sort of things?
A Correct. That is correct.
Q Okay. And then you say, "Point 2: The man-made depression fills instantaneously and does not impact the wave height; i.e., slow down the material." What do you mean by Point 2 there?
A Well, generally, the man-made depression is filled with 60 percent of material first, and then the wave heights can continue after that.
Q Okay. But what about this part where you say you're assuming that the amount that goes into the

man-made depression won't slow down the material thereafter. See that in the parenthetical?
A Right.
Q What did you mean there?
A Well, there's still a flow of material and there's still material coming out of the tank, but you have to fill up the depression first.
Q Okay. And then take a look if you would at the next page, page 12 of 41, 4.2, "dispense through the storm drain to navigable waters." And can you tell us basically what you were -- how you approached this analysis and what you concluded? Section 4.2?
A Yes. The --
Q Feel free if you want to kind of glance at it to refresh your recollection.
A Sure. So what we did was we tried to look at the material on site, and like I said, we didn't use any of the site volume off to the right. There is another containment structure off to the right. We didn't use that. So we assumed that the material would flow out into the street, that is, the City of Sacramento, or West Sacramento, and then travel along the street way. The street is sort of depressed from this rounding land, this is the developed lands, and that it would have to travel to the street. And then,

from the street, it would probably go into a drain that we didn't have any control to. But, at that point, the material would have to be somewhat cooled and would be going slower. And so then we tried to assign some --
Q Sorry. How far is the street from the tank, about, just best estimate?
A Three hundred feet.
Q Okay. So go ahead, continue.
A And then we tried to do some sort of analysis in the pipe; that is, we assumed the material would go in the pipe and then flow in the pipe, and then we tried to calculate a distance of flow and then a time of -- it would become so solid that it would have to slow down. I mean, there's a viscous issue there. I'm not sure we applied that. Probably, we tried to. So we came up with a distance that it might flow inside the pipe. But, looking at the length from there, from the site to the channel via the storm drain is about 2500 feet, and we felt that it might flow 900 feet and would probably plug up the pipe. It would probably cool to a consistency, it would just solidify inside the tank, inside the pipe.
Q Okay. And so, based on your best estimate, best calculation, best application of the Guo model,

it wouldn't reach the channel, either through the storm drain or to the south via overland flow?
A Right. Yes, that's correct.
Q And you feel pretty comfortable with that analysis as you sit here today?
A Yes.
MR. MCNEIL: Okay. Nothing further, Your Honor.
JUDGE BIRO: Would you like to take a 10-minute break?
MR. HELMLINGER: I think that would be great.
JUDGE BIRO: Okay. We'll stand in recess until 10:35.
(Whereupon, a brief recess was taken.)
JUDGE BIRO: Please be seated. Madam Reporter, we're going to go back on the record.
Proceed.
CROSS-EXAMINATION
BY MR. HELMLINGER:
Q Good morning, Mr. Delano. I want to apologize up front. I had a friend in high school who was Mr. Delano. If I happen to mispronounce that, I apologize for that. But it's Delano, correct?
A Yes.

Q Thank you.
A Thank you.
Q Your engineering emphasis in college you mentioned was structural engineering, is that correct?
A Correct.
Q Not hydrologic or hydraulic engineering?
A Correct.
Q You said you were the engineer on staff. Are you the only PE?
A Correct.
Q And is there somebody within your office who does legal or regulatory review for you, or is that done by you?
A Ms. Casey and I would be the two point people.
Q And you mentioned you did this FRP project with Ms. Casey, and she testified the same. I believe it was her testimony this was about her only FRP she's worked on. Is that the same for you?
A That's correct.
Q You have reviewed the FRP regulations at 40 CFR Part 112?
A Somewhat, yes.
Q And you're familiar with Table C or, I'm sorry, Appendix C?

A I've read some of them. I couldn't tell you offhand.
Q But you've done a fair bit of SPCC work, that's correct?
A Yes.
Q All right. So, with that as a context, you agree, do you not, that the regulations have kind of a prescriptive bent toward format? The SPCC plan in your experience needs to look a particular way, is that right?
A Correct.
Q And you understand the importance of that format is for responders, inspectors to be able to review it quickly, as need be?
A Okay.
Q You agree?
A Okay.
Q I'm sorry if I'm not clear on that. Okay, you agree with my statement, or okay on saying the statement?
A I'm not sure about the inspectors and their purpose.
Q But, for responders, certainly, the format is important for them?
A Sure, yes.

Q It sort of lets you know where to look?
A Yes, it would be.
Q Right.
THE COURT REPORTER: Excuse me, counsel, could you speak into the microphone? Thank you.
BY MR. HELMLINGER:
Q Turn to CX-18 if you would. Turn to page 39. Down toward the bottom of the page, that is your signature and PE stamp, is that correct?
JUDGE BIRO: I'm sorry, where is it that you're in?
BY MR. HELMLINGER:
Q PE, Professional Engineer stamp.
A Yes, it is.
Q Could you read for me the date on that PE stamp?
A I think it says "Expires 9/30/15."
Q Then, below your signature, three lines below that, there's a date with a signature.
A Yeah.
Q What is that date?
A 10/30/14, I think is the date of the report.
Q Thank you. Have you had in your experience an opportunity to be at a response of asphaltic cement, Mr. Delano?

A Do what?
Q Have you had the experience of being at a response to a release of asphalt cement?
A No, I have not.
Q You understand it's typically stored about 250, 260 degrees?
A Yes.
Q So I know we talked a little bit about what you think might be more probable, but you seemed to do your report based on a worst-case discharge as a full instantaneous release of the tank? We agree on that?
A Yes.
Q So whether we agree or disagree on what's realistic, I think we do agree on what the regulations require you to do, is that right?
A That's correct.
Q You understand that even with a well-designed structure, accidents can happen. Is that true?
A That is true.
Q All right. You're familiar with issues with construction of the Bay Bridge, for example? Despite billions of dollars and lots of time, they still had problems with the footings?
A Yes.

Q Do you recall that incident? And I'm sure you've seen the new stories about the Millennium Tower. Despite millions of dollars and lots of engineering, there's still problems.
A Which tower?
Q The Millennium Tower here in San Francisco. Have you seen those news reports?
A Oh, yeah. Yes, I have.
Q So you're familiar that despite millions of dollars and lots of engineering --
A Another foundation issue, yes.
Q And the Transbay Terminal, similarly, despite millions of dollars and lots of engineering, there are widely regarded reports of structural problems. Are you familiar with that?
A I'm not familiar with that project.
Q You've not seen the news reports about the Transbay Terminal?
A No.
Q You understand that California obviously is an earthquake zone?
A There are earthquake faults in California, yes.
Q Right. And I think it's your testimony even that corrosion perhaps could cause a -- might be a

cause for a more vertical failure within a tank?
A I'm sure it could, yes.
Q So there's lots of causes?
A Yes.
Q I'm going to have you turn to CX-9, page 4 of 19.
A CX-9?
Q 9, yes, please. Same binder.
A Yeah, okay.
Q Page 4 of CX-9.
A Page 4. Photographs?
Q Yes.
A Photographs?
Q Yes.
A Okay.
Q The bottom half of that page is an illustration marked Photo No. 8. Do you see that?
A Photo 8, yes.
Q Is that a view generally southeast from the VSS facility?
A Apparently.
Q And does that comport with your recollection of the view from southeast of the facility towards the Sacramento River Deep Water Ship Channel?
A I don't recollect the chain link fence, but,

if you say that's the direction, okay, sure.
Q And the structure that represents is concrete; at the bottom of that, is that the K-rail you were discussing?
A Apparently, yes.
Q And if there was any berm or obstruction between that K-rail and the water, you would see it in that photo then? Is that fair to say?
A Yes.
Q So you did a lot of displacement calculations or volume calculations for how much material could be contained within the facility. In those calculations, you -- as I've looked at the math, it looks like you have taken a, correctly, a displacement reduction in volume for the second large tank in the secondary containment area, full storage. Is that right?
A Yes.
Q At least as we've looked at the numbers, it doesn't look like you took a displacement amount for the truck ramp into the secondary containment facility. Do you have a recollection of that?
A I think we took some shots on that facility, so I think it would have been there.
Q Is it stated in your report?

A I don't believe so.
Q Can I assume that something that's not stated in your report wasn't considered in any great detail?
A It could be.
Q So your report doesn't discuss, for example, FRP regs and how it would apply to half-mile distance to water, so can I assume that you didn't consider that?
MR. MCNEIL: Objection, misstates the prior testimony.
JUDGE BIRO: Overruled, but go ahead.
THE WITNESS: The question again, please?
BY MR. HELMLINGER:
Q Your report does not mention the FRP rule and its half-mile consideration for a facility close to water, such as the Sacramento River Deep Water Ship Channel, so am I correct that you didn't consider that?
A Not at the time. We did consider the total distance, which I think is what we put in. This was the substantial harm report, right?
Q Yes, CX-23.
A Yes.
Q Sorry if I hadn't been clear on that. And

so, similarly, your substantial harm report does some fair mathematics around the storm drain and distance but doesn't appear to consider the FRP regulations and where it makes the assumption that discharge to storm drain enters nearby navigable water that it discharges to. So am I correct that you didn't consider that?

A I don't totally understand. We did allow the material to flow into a storm drain in the street and we tried to calculate the flow of the material in the storm drain.

Q Right. And so you calculated the flow of the material in the storm drain at the street. Did you calculate the flow of the material from storm drains within the facility?

A No.

Q Your report also doesn't mention the area contingency plan, so may I assume that you didn't consider that?

A Correct.

Q Your report does talk about your opinions on the quality of the retaining wall and secondary containment barrier, but it doesn't mention any particular engineering or diagnostic analysis. Am I correct to assume that there was none?

A There was none done at that time.

Q Have you since?

A We since have done that, yes.

Q Have those been provided to the Environmental Protection Agency?

A No. It wasn't requested as far as I know.

Q Have you had the opportunity to use the Guo model other than this one instance?

A No.

Q Do you consider yourself familiar with the Guo model?

A No.

Q In your Table 4 of your Substantial Harm Report, CX-23, in fact, if you could turn to that, if you would?

A Table 4, what page?

Q My page is 8, but I know that's different here, so give me a half second. Ten from behind, I bet it's page 10.

A I'm looking at it.

Q Okay. So, as you applied the Guo model, one, two, three, four, five, six, seven, eight lines down the table, Table 4. "Initial radius of travel, R0." Do you see that?

A Yes, I do.

Q So you applied 50, I take it, feet, feet

units, for your initial radius of travel, is that right?

A Okay.

Q And that 50 feet radius of travel is essentially from the center line of the tank to the wall of the tank, is that right?

A I'm not clear. I didn't run this model. Ms. Casey did.

Q Okay. But you reviewed it?

A I did.

Q And it's your PE stamp that would go on the facility's SPCC fine, is that right?

A I did.

Q The spill angle, you see below that line?

A I do.

Q Three hundred sixty degrees?

A Yes.

Q Am I correct that that's assuming release of the entire contents of the tank instantaneously in all directions?

A Again, I didn't run this model. I couldn't answer that properly on the specifics of the model.

Q As we have basically tried to review this table with the Guo model, we concluded that the V figure that's used in the Guo model -- I have it in

front of me; I can read any part of it you'd like to if you like -- V is where you calibrate the viscosity. And it looks like your V, viscosity, of the material was represented as .003 cubic feet per second. Do you have an opinion on whether our math is correct there?

A No, I would have no opinion.

Q And if you turn to your Table 5 -- I'm sorry, your Table 2 -- Table 3, page 8, I believe. Table 3, page 8, of CX-23, at that range, let's just say the Guo model uses that viscosity as a specific example for asphalt within a temperature range of 140 to 180 degrees. Do you have an opinion on whether that's correct?

A I have no real opinion. I'm not familiar with the material.

Q Sure. So, using that viscosity and that temperature range, your Table 3 would suggest that that viscosity is equivalent to peanut butter, is that right?

A I don't know.

Q That's there on Table 3 on page 8 of CX-23, do you see that?

A I see that.

Q A temperature at 140, reading across the table, said a comparable flow, it says peanut butter?

A Okay.
Q And do you see the second row of that table, the temperature at 260 degrees?
A Okay.
Q You see that the comparable for that is corn syrup?
A Yeah. Okay.
Q Which I believe was your testimony earlier.
A Okay.
Q That, for you, "this material is like corn syrup or mineral oil."
A Yes. Yes.
Q So the secondary containment wall, there was testimony, give or take some inches, four feet tall for simple mathematics. If it means more to you to be more particular, I'm happy to be, but let's assume it's four feet tall. We heard testimony the tanks are 40 feet tall. So the tanks are 10 times the height of the containment wall, is that right?
A Correct.
Q And your modeling, am I correct, suggests that a 100 percent release of 2 million gallons of corn syrup from 10 times the height of the wall is not going to splash over that wall, is that right?
A Correct.

Q And you did not run any calculations as if the release were on the smaller range, let's say 180 degrees, is that right?
A I don't believe so.
Q Or 90 degrees, is that right?
A That is correct.
Q And, similarly, not 45 or 40 degrees?
A Correct.
Q So the Guo model I'll represent to you suggests guessing at R0 the radius described. Do you have an opinion whether I'm correct about that?
A I don't know.
MR. HELMLINGER: For the record, I'll put a citation at page 4 of the Guo report, third paragraph down.
BY MR. HELMLINGER:
Q And read the scenario studies "began with a specified angle spill and a guessed distance of spread, i.e., the value of R0," in Equation 2. So I'm correct you have no information for me?
JUDGE BIRO: Mr. McNeil?
MR. MCNEIL: Objection, Your Honor.
JUDGE BIRO: What are you objecting to?
MR. MCNEIL: I apologize, but I couldn't hear if Mr. Helmlinger was referring to the Guo report

itself, which is not a marked exhibit.
JUDGE BIRO: Oh, so what are we referring to?
MR. HELMLINGER: It is the Guo report itself, which is not a marked exhibit, but, clearly, it's instrumental here. How R0 is applied, I think he's testified he doesn't know a lot about it, and so I need to give him some context to ask him a specific question.
MR. MCNEIL: I object then because --
JUDGE BIRO: Excuse me?
MR. MCNEIL: I object then because -- I don't have an objection to the experts referring to the Guo model to the extent that either one, either expert, but the Guo model itself has not been identified by either party, and I don't even know if the working copy we have is the same one. It's not in, as far I understand, the prehearing orders; it's not in this case. So I would object to a reference from that and any cross-examination from the report itself as opposed to one of the expert's reports where they refer to it.
JUDGE BIRO: I think it's an appropriate cross-examination. Overruled.
//

BY MR. HELMLINGER:
Q So you were in the courtroom on Friday when Ms. Casey was testifying, is that right?
A I was here, yes.
Q I believe it was her testimony that the 271 was a guess at splash radius. Do you recall that testimony?
A Yes.
Q And the 271 is listed in Table 4 as final distance of travel, or R. Do you see that?
A Yes.
MR. MCNEIL: Objection, Your Honor. I apologize, but that misstates Ms. Casey's testimony. She said it was an approximated property boundary distance.
JUDGE BIRO: Sustained.
BY MR. HELMLINGER:
Q So the Guo model as you applied it, you're applying it to the uncontained spill volume of 948,000 gallons of asphaltic cement, is that right?
A Yes.
Q So your assumption removes from the equation 1,400,000 gallons of asphaltic cement because it's instantly contained in the containment structure, is that correct?

A Correct.
MR. HELMLINGER: No further questions.
JUDGE BIRO: Any redirect?
MR. MCNEIL: Your Honor, just one.
REDIRECT EXAMINATION
BY MR. MCNEIL:
Q Mr. Delano, just one question. I want to clarify something you said on direct about your engineering license. You said it has been in effect since --
MR. MCNEIL: I forgot, sorry.
JUDGE BIRO: 1971.
BY MR. MCNEIL:
Q 1971, is that correct?
A '73.
JUDGE BIRO: '73.
BY MR. MCNEIL:
Q 1973, okay.
A Correct.
Q It's been in full force and effect that entire time?
A Yes. We're required to renew our license every two years in the State of California, and so I've consistently done that throughout that period.
Q And has it lapsed during that period?

A Never.
Q Has it been -- have you been the subject of any disciplinary proceedings where it's been suspended or revoked?
A No.
Q Okay.
A What we're required to do is put the date of our current expiration date on each stamp, so each two years that stamp is updated, and so we, accordingly, write a different date on the stamp as we renew our license.
Q If there was a document that had an expired date in this case, that doesn't -- in other words, that doesn't mean your license was, in fact, expired at that time?
A Yeah, if it's an old document, and as you see, the document was stamped and signed during the period of active license, yes.
MR. MCNEIL: Okay. Nothing further.
RECROSS EXAMINATION
BY MR. HELMLINGER:
Q Mr. Delano, I take it we're referring to CX-18, where I had you read the date of your PE stamp, is that right?
A Okay. Yes.

Q That the date there is the date that you signed the document, is that right?
A Yeah, I think there's a couple of dates. And what we try to do is have that date of signature, so I have to put in my expiration date, so that's on there on the stamp itself. And then there's usually a date of the document that I'm signing. So we try to make that about the same date. Sometimes there's a cover sheet date, might be a day or two different.
Q Sure. I can appreciate that. And I'd like you to turn to page 1 on CX-18.
A 18?
Q The same document, CX-18, page 1.
A Okay, yes.
Q I'll represent this is how the document with that PE stamp was provided to the United States. Could you read for me where it says "Current revision date"?
A January of 2016.
JUDGE BIRO: Okay. Can I ask you a few questions?
THE WITNESS: Certainly.
JUDGE BIRO: I'll talk louder. You said you didn't consider the area contingency plan, is that right?

THE WITNESS: Yes.
JUDGE BIRO: Can you tell me why you didn't consider that, the area contingency plan?
THE WITNESS: No, I can't, no.
JUDGE BIRO: Okay. And in the appendix that you use, Appendix C, in connection with the FRPs, they have a different calculation. Did you do that calculation?
THE WITNESS: No. Ms. Casey did that calculation.
JUDGE BIRO: Can you tell me a little bit more about these tanks? How are they heated?
THE WITNESS: As I understand it, and I'm not totally familiar with the process, is that there is steam generated and there's steam injected within the tanks. There are heat exchangers within the tank that maintain temperature. And then there are design temperatures associated with those heat exchangers, and so the material goes in and out of the tanks through the piping. Besides that, I don't know much about the process and piping. Mr. Tilford tried to send me some information about that. I'm not really that familiar with it.
JUDGE BIRO: Are the tanks pressurized?
THE WITNESS: No, no, not pressurized.

They're open vented. There are vents on the roof, so, no, they are not pressurized.

JUDGE BIRO: And so the heat exchangers -- and, I'm sorry, what did you say, how they were heated?

THE WITNESS: I think with steam, but --

JUDGE BIRO: Steam. And how is that generated? Where is that generated?

THE WITNESS: There's some facilities between the secondary containment wall and the railroad. There are a set of tanks there, and so there's oil tanks there, and so I think they create the steam, rotate the materials through the piping. There's a series of pipes that are on the north side of both tanks, and so not only do they transport the oil from the railroad, then they use that to transport the hot material to keep it in the heat exchangers.

JUDGE BIRO: Okay. Thank you. I have no further questions.

Mr. McNeil, did my questions generate any questions for you?

MR. MCNEIL: No, Your Honor.

JUDGE BIRO: Okay. Mr. Helmlinger?

MR. HELMLINGER: No, Your Honor.

JUDGE BIRO: Thank you very much.

JUDGE BIRO: Do you want to reserve Mr. Delano to be able to come back?

MR. MCNEIL: Yes, please, thank you, Your Honor.

JUDGE BIRO: Okay. Thank you. It's 11:07. Would you like to call your next witness or take a break? A five-minute break. Okay. We'll stand in recess 'til 11:15.

(Whereupon, a brief recess was taken.)

JUDGE BIRO: Please be seated. Mr. McNeil, would you call your next witness?

MR. MCNEIL: Thank you, Your Honor. Respondent calls Michael Sears from Yolo County.

THE COURT REPORTER: Please stand and raise your right hand.

Whereupon,

MICHAEL SEARS

having been duly sworn, was called as a witness and was examined and testified as follows:

THE COURT REPORTER: Thank you. Please have a seat. And for the record, would you please state and spell your first and last name?

THE WITNESS: Michael Sears, M-I-C-H-A-E-L, S-E-A-R-S.

THE COURT REPORTER: Thank you.

JUDGE BIRO: Please proceed.

DIRECT EXAMINATION

BY MR. MCNEIL:

Q Mr. Sears, good morning. Thank you for attending this morning. I understand you were and perhaps still are employed by Yolo County, is that correct?

A Yes, I'm still employed.

Q You are still. And what's your -- what part of the county -- which county agency are you with?

A It's Environmental Health.

Q Environmental Health?

A Yes.

Q Okay. And what's your title?

A Hazardous Materials Specialist.

Q Okay. And how long have you been so employed?

A Thirteen years next month.

Q Okay. In that same position?

A Same position, yes.

Q Okay. Thank you. During the 13 years that you -- let me ask you first, is the county considered what's referred to as a CUPA? Are you familiar with that term?

A Yes. Our agency is a CUPA.

Q Your agency is a CUPA?

A For that jurisdiction, yes.

Q Okay. And what, just to remind everybody, what does CUPA stand for again?

A Certified Unified Program Agency.

Q And what does that mean in your experience?

A It means instead of having multiple agencies conduct different inspections at different times, one agency goes out and conducts all of those inspections.

Q Okay. Thank you. And during the course of your employment, have you had occasion to visit or inspect the VSS facility in West Sacramento?

A Yes.

Q Okay. On how many occasions have you been to the facility?

A I've done three routine inspections, one follow-up, and I responded to two releases.

Q Okay. So five or six times you've been there?

A Yes.

Q Okay. And the City of West Sacramento is within Yolo County, is that correct?

A It's a city agency within Yolo County, yes.

Q Yeah. I'm sorry. I was asking whether the City of West Sacramento is within the County of Yolo?

A Yes, it is.
Q Okay. Because there's also Sacramento County, which Sacramento is in, right?
A Mm-hmm.
Q Okay. So this is West Sacramento?
A That's true.
Q In a different county?
A That's right.
Q Okay. Do you recall -- it's a number of years back, of course, but that VSS had prepared -- well, first of all, are you familiar with a Spill Prevention, Control and Countermeasure plan?
A I am.
Q Sometimes referred to as an SPCC plan?
A Yes.
Q Okay. And what's your general experience or familiarity with those plans?
A I routinely review them as part of my routine inspection of a facility that falls under that program.
Q Okay. Do you recall that VSS had an SPCC plan that was in about the 2012 period of time, prepared by a firm called Condor Earth Technologies?
A I do.
Q You do?

A Yes, I reviewed that plan.
Q You did review that, okay. Did you review that plan and do you recall if you may have noticed -- noted some deficiencies with the plan?
A There were deficiencies.
Q Okay. And did you communicate those to VSS?
A I did.
Q All right. And did you interface with any individuals at VSS or at Condor in following up with those, with the deficiencies that you had noted?
A Yes, I did.
Q Okay. And who were those individuals?
A One of them worked for Condor. I believe it was the PE who wrote and certified that plan. I don't remember his name right now.
Q Okay.
A And also management of the facility.
Q Okay. And do you remember who that was?
A I don't. There were three or four people there I was communicating with at the time, and they've had personal changes since then. There's a Randy Tilford down there who I was instructed to only communicate with him, but that was before that. So there were several people I was dealing with there.
Q Okay. Does the name Pat McNairy ring a

bell?
A Yeah, it sounds familiar.
Q Or Jeff Nowlin?
A Jeff Nowlin definitely sounds familiar.
Q Okay. And Randy Tilford?
A Mm-hmm.
Q Okay. And at Condor, does either Robert Job or Wesley Greenwood ring a bell?
A Yeah, maybe. I mean, there's so many people there that I talk to. I collect business cards. I have them back in the office. They sound familiar, but I don't remember specifically.
Q Okay. Let me ask you to -- so there should be binders there with various exhibit designations and there should be some that start with RX. Do you see those binders?
A What would the RX be?
Q RX-41. Yeah, if you see that. It's a two-page document, RX-41.
JUDGE BIRO: In Volume 2 of 5.
THE WITNESS: So RX-2, you say?
BY MR. MCNEIL:
Q RX-41.
A RX-41. Okay. Email from Michael Sears to Randy Tilford.

Q Right. What's the date on that?
A 5/9/2012.
Q Okay, great, that's it. And could you go to page 2 of that document and tell me at the top of the page if you see as part of the email thread an email that bears your sender information?
A Page 2. What are you looking for again?
Q Well, at the top of page 2, do you see part of the email thread that starts off, "Dear VSS Emultech"? RX-41, page 2 of 2.
A Yes.
Q Okay. Do you see at the top where it says, "Dear VSS Emultech"?
A Yes, I see it.
Q Okay. Now does that bear your sender information?
A Yes.
Q Okay. Is this an email that you sent to Mr. Tilford -- if you look at the bottom of the previous page, you'll see that it appears to be an email dated May 8, 2012, at 4:38 p.m. Do you see that?
A Yep, I see it.
Q Okay. Do you have any reason to believe this is not an actual email that you sent?
A No.

Q Okay. Does it have a signature to it there above your name?
A Yes.
Q It looks to me like that's an electronically generated signature. Is that true?
A It is.
Q Okay. But is that your electronically generated signature?
A Yes. That's how it was set up.
Q Okay. And right above the -- or, sorry, right below where it says "VSS Emultech," there's a reference to a Notice of Violation and a Certification of Return to Compliance. Do you see that?
A I see it.
Q Okay. And now I'd like to ask you if you could look at RX-40, which should be the very preceding exhibit. which should be an April 6, 2012, letter report from the Condor Earth Technologies firm.
A Yeah.
Q Do you have that?
A Yes.
Q Okay. And if you flip a couple of pages in to page 3 of 45, do you see the face page for the SPCC plan for VSS Emultech?
A Yes.

Q Okay. If I might ask you, Mr. Sears, to just sort of go through the document sufficiently to, and I'll ask you the question, whether this appears to be the SPCC plan that you reviewed for this facility around this time? Take your time.
A That's really impossible for me to determine. It has the right time frame, but my experience with VSS is sometimes they have more than one SPCC plan at the same time.
MR. MCNEIL: Your Honor, move to strike as nonresponsive.
JUDGE BIRO: Sustained.
BY MR. MCNEIL:
Q And then go back if you would, Mr. Sears, please, to RX-41. And this is the same email thread we were looking at a minute ago. And if you would go up to the top, the very first email at the top of page 1, which appears to bear the date and time of May 2 -- sorry, May 9, 2012, 10:30 a.m.
A Yeah.
Q And is this an email that you sent to Mr. Tilford?
A Yes.
Q Okay. And could you read for me, please, the first sentence of the second paragraph?

A "County agencies have only recently" --
Q Sorry, a little bit slower so the reporter can --
A Oh, sure.
Q And maybe a little bit louder?
A Okay.
Q Thank you.
A Sure. "County agencies have only recently begun to inspect SPCC plans, so it is common to find such large numbers of discrepancies in a plan. Plan content and implementation was not looked at before this time. The revised SPCC plan is much better than the one I originally reviewed for this facility."
Q And do you have any reason to believe that the SPCC plan that you're talking about in May of 2012 is not the one we looked at a minute ago by Condor for April of 2012?
A You lost me a little bit. One more time, please?
Q Do you have any reason to -- when you talk about this SPCC plan that is a little bit better than the last one --
A Yeah.
Q -- okay, do you have any reason to think that you're talking about something other than the

Condor plan that we looked at that's dated April of 2012?
A I do not.
Q Okay. So, when you say county agencies have only recently begun to inspect SPCC plans, what did you mean in 2012 when you wrote that?
A Well, the legislation that they passed in 2011 gave the counties the authority and responsibility to review the SPCC plans. Before that time, it belonged to the state. So it was a new program for us. We were learning the rules. We just got certified to do the inspections.
Q Okay. And did you advise VSS of that, that you were there, that you had that authority under the statute?
A I did.
Q Okay. And when you say, "It is common to find such large numbers of discrepancies in a plan," what was your experience or what was behind your making that statement?
A The other facilities I was inspecting during that time period, viewing their SPCC plans, they also had lots of discrepancies in their plans. And the facilities didn't seem used to us, used to anyone reviewing their plans. I could tell it was new for

them as well.
Q And then, when you say "The revised SPCC plan is much better than the one I originally reviewed for the facility," you're talking about the VSS faculty?
A That's right.
Q You're telling Mr. Tilford that?
A Mm-hmm.
Q Okay. And going back to -- sorry -- going to RX-42, which should be the very next one, hopefully, in your binder, this appears to be an email from you to Mr. Tilford dated May 30, 2012. Looks like you wrote it at 8 a.m. You see that?
A Yes, I see it.
Q Okay. And you appear to be transmitting some information that you had gleaned from a Mr. Reich at the U.S. EPA. Do you see that?
A I see it.
Q Who is Mr. Reich?
A Peter Reich.
Q Reich? Okay. Who is he?
A He worked for and he still worked for the federal EPA with the SPCC Plan Program.
Q Okay. And below, right below the midpoint, it looks like Mr. Reich had sent you an email the

preceding morning, May 29, 2012, at 11:14 a.m. Do you see that?
A Yes.
Q And is that an email you received from Mr. Reich?
A Yes.
Q And you then passed along to Mr. Tilford?
A That's right.
Q Okay. And then below that, if we go to the next page, it looks like there's an email from you to Mr. Reich from May 9, 2012, 1:05 p.m. You see that?
A Yes.
Q It looks like you're posing some requests for information or guidance to Mr. Reich. Is that generally the case?
A Yes, I was asking him for some interpretation on some of the rules.
Q What was the reason for you to be reaching out to Mr. Reich in this fashion?
A Again, the program was new to us. This set of rules was new to my agency, and I wanted guidance on interpretation of some of these rules that we were enforcing.
Q Okay. And that was based on your SPCC plan of VSS?

A Right.
Q And some question about the interpretation of the SPCC portion, some of the components of the plan, is that right?
A Some of the required components in the plan that the plan was required to have, yes.
Q Okay. And in your email to Mr. Tilford back on the top of page 1, you say here, "Mr. Randy Tilford, here is the response to my questions to Peter Reich of the U.S. EPA. Please see the below correspondence." Do you see that?
A Yes, I see it.
Q Okay. And then you go on to say, "An important thing to remember is that Yolo County Environmental Health is the regulatory agency charged with the responsibility and authority to enforce the APSA regulations." Do you see that?
A I see it.
Q Okay. What are the APSA regulations?
A That's the Aboveground Petroleum Storage Act regulations, the health and safety code sections, and when I do the SPCC plan review, I'm referring to those, which largely refer to 40 CFR Part 12, Federal SPCC plan rules, but it also contains some other things, some exemptions and such.

Q Do you recall ever advising Mr. Tilford or anybody else at VSS that you did not have authority to inspect them for SPCC violations?
A No.
Q And then down below, Mr. Reich refers to some details in the second paragraph, some details about Section 112.7(b). Do you see that -- or third paragraph, I should say?
A I see it.
Q And if you go, if you take a look at RX-47, should be a couple exhibits thereafter, you'll see RX-47, page 1 of 20. Let me know when you have that.
A I have it.
Q Okay. You have there -- it's an email thread, but toward the bottom, do you see an email from you to Mr. Tilford of June 4, 2012, 9:51 a.m.?
A Yes.
Q Okay. And you discuss in this email, the first paragraph you discuss the APSA inspection, and then, in the second paragraph, you talk about the SPCC plan inspection. And in the first paragraph, you say the date of correction is June 1, 2012. Did you tell Mr. Tilford that, as of June 1, 2012, there were any outstanding violations with the facility's SPCC plan, or did you consider those corrected as well?

A All of the site violations were considered corrected.
Q Okay. And if you could please turn to -- now we're going to look to the binders that are CX, the CX series, but we're only going to go to 4, so you should hopefully be able to find CX-4. Do you have that in front of you?
A Yes, I do.
Q Okay. Have you ever seen this document before?
A Which CX are we looking at?
Q CX-4. By all means, please thumb through it, see if you recognize having seen it before.
A I don't believe I have.
Q Okay. You don't think you have?
A Uh-uh.
MR. MCNEIL: Okay. Nothing further, Your Honor.
MS. SUGERMAN: Can we have five minutes, please?
JUDGE BIRO: We'll stand in recess five minutes.
(Whereupon, a brief recess was taken.)
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CROSS-EXAMINATION
BY MS. SUGERMAN:
Q Good morning, Mr. Sears. Thank you for your time today. Just to confirm, you don't work for the Environmental Protection Agency, is that correct?
A That's correct.
Q And you don't have any sort of federal inspector credentials, is that correct?
A That's correct.
Q And you testified that the program you're implementing is a state program under a state law, the Aboveground Petroleum Storage Act, is that correct?
A That's correct.
Q And when you talk -- when you testified earlier about SPCC compliance, you were talking about specifically SPCC compliance with that state law, is that correct?
A That's correct.
Q Would you be making any determinations about compliance with the federal law?
A Indirectly, because APSA refers largely to federal law.
Q But if you were to find a difference between -- if you were to find what you considered a deficiency in an SPCC plan and it happened to be the

same requirement in both the state law and the federal law, you would not be making a determination as to compliance with the federal law, is that correct?
A That's correct.
Q And you're aware, are you not, that the federal SPCC, the federal oil pollution prevention regulations, are not delegated to the state? Are you familiar with that? I can clarify if that's --
A Yeah. I guess, yes.
Q Yes, you're familiar that it's not delegated?
A Well, to my knowledge, yes, I suppose. The APSA rules refer to the federal rule except for when it contradicts the federal rule.
Q So, in that way, though, APSA is incorporating or refers to the federal regulations, but when you are inspecting, you are still simply implementing the state requirements, correct?
A That's correct.
Q When you do your CUPA inspections, you wouldn't consider them exhaustive or comprehensive to the point of being absolute, would you? For example, it's quite possible that after you complete your inspection there could be violations you did not see or you didn't notice?

A That's true.
Q And when you inspected the VSS facility in 2012, you were fairly new at applying the APSA rules, is that correct?
A That's correct.
Q I'm looking at the exhibit. You don't need to turn to them, but you testified regarding Exhibit RX-42 and RX-47. You can look at them if you would like to, but in both of those, you were very clear that you were doing an APSA inspection and you were referring to APSA deficiencies, is that correct?
MR. MCNEIL: Objection, Your Honor. That misstates the prior testimony. He said APSA and SPCC.
JUDGE BIRO: I think she's referring to the exhibits, and the exhibits refer to APSA.
MR. MCNEIL: Well, with due respect, Your Honor, I think 47 talks about SPCC. I would ask that she rephrase the question or show him an exhibit.
MS. SUGERMAN: I can clarify the question.
BY MS. SUGERMAN:
Q When you refer to compliance with SPCC -- or I'm going to backtrack. The APSA statute, the APSA program that you were implementing requires facilities to have an SPCC plan, isn't that correct?
A That's true.

Q And it uses that exact language; it uses the Spill Prevention, Control and Countermeasures plan description; it's the same words?
A Yes.
Q And it refers to the federal regulations that detail Spill Prevention, Control and Countermeasure requirements, is that correct?
A Yes.
Q So, when you say SPCC, you're not necessarily saying federal SPCC requirements; you're saying that SPCC, as the APSA, incorporates it?
A That's correct.
Q And you're aware, aren't you, that there are differences between what APSA requires and what the federal program requires?
A Yes.
Q For example, are you aware that the APSA does not regulate heated materials, but the federal program does regulate heated materials?
A Yes.
Q So, for example, would APSA regulate the two large 2.4 million gallon tanks of heated asphalt cement at issue in this case?
A No.
Q Is it your experience that VSS may have

multiple SPCC plans at any one time?
A Yes.
Q And have you -- strike that. One moment, please.
(Pause.)
MS. SUGERMAN: I have no more questions.
JUDGE BIRO: Any redirect?
MR. MCNEIL: No, Your Honor.
JUDGE BIRO: Okay. I don't have any questions. Thank you, Mr. Sears.
THE WITNESS: Thank you.
JUDGE BIRO: Do you want to reserve the right to recall Mr. Sears?
MR. MCNEIL: No, Your Honor. He may be excused from our standpoint.
JUDGE BIRO: Okay. Thank you, Mr. Sears.
THE WITNESS: Thank you.
(Witness excused.)
JUDGE BIRO: It's almost noon. Would you like to break for lunch?
MR. MCNEIL: That would be fine with us, Your Honor.
MR. HELMLINGER: That sounds fine. Thank you.
JUDGE BIRO: Okay. We'll stand in recess

until 1?
MR. MCNEIL: Yes, Your Honor.
JUDGE BIRO: Okay. Thank you.
(Whereupon, at 11:50 a.m., the hearing in the above-entitled matter recessed, to reconvene at 1:00 p.m. this same day, Monday, May 20, 2019.)
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AFTERNOON SESSION
(1:00 p.m.)
JUDGE BIRO: Please be seated. We're going back on the record.
Mr. McNeil, would you like to call your next witness?
MR. MCNEIL: We would, Your Honor, we just have one more witness, but, with your permission, we'd like to recall very briefly Mr. Delano before he's excused.
JUDGE BIRO: Okay.
MR. MCNEIL: Subject to any further cross.
Mr. Delano, please have a seat.
Whereupon,
ART LEE DELANO
having been previously duly sworn, was recalled as a witness herein and was examined and testified further as follows:
REDIRECT EXAMINATION
BY MR. MCNEIL:
Q Just very briefly, to your left is the RX binders?
A Yes.
Q Could you turn to RX-96.
A Yes.

Q Page 40.
A Yes, I'm at page 40.
Q Okay. Does that show your stamp and signature with an expiration date of September 30, 2017?
A It does.
Q Okay. And that's attached to one of the VSS plans?
A Yes.
Q Was that, in fact, in effect when the January 15, 2016, plan was done?
A Yes. Those are two-year stamps, yes.
Q Okay. So it would have been in effect from October 1, 2015, to September 30, 2017?
A That's correct.
Q Okay. And one other question. You were asked a series of questions earlier about whether you reviewed certain things, legal requirements and the model and the area contingency plan. Did you understand those questions to mean whether you reviewed those as opposed to whether WHF reviewed those?
MR. HELMLINGER: Objection, leading.
JUDGE BIRO: Sustained.
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BY MR. MCNEIL:
Q Did you have an understanding when you were asked the word "you" who those questions were referring to?
A To me personally.
MR. MCNEIL: Okay. Nothing further, Your Honor. Thank you.
MR. HELMLINGER: I have no questions, Your Honor.
JUDGE BIRO: Okay. Thank you.
(Witness excused.)
JUDGE BIRO: Okay, Mr. McNeil, would you like to call your next witness?
MR. MCNEIL: Yes. With permission, my co-counsel, Mr. Ludwig, will call the witness.
JUDGE BIRO: Okay.
MR. MCNEIL: Thank you.
MR. LUDWIG: Respondent would like to next call Mr. Craig Fletcher, Your Honor.
JUDGE BIRO: Mr. Fletcher, would you please take the stand and remain standing until the court reporter can swear you in.
THE COURT REPORTER: Please raise your right hand.
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Whereupon,
CRAIG FLETCHER
having been duly sworn, was called as a witness and was examined and testified as follows:
THE COURT REPORTER: Thank you. Please have a seat. And would you please state and spell your first and last name for the record?
THE WITNESS: Yes. My name is Craig Fletcher, C-R-A-I-G, F-L-E-T-C-H-E-R.
THE COURT REPORTER: Thank you.
JUDGE BIRO: Please be seated.
DIRECT EXAMINATION
BY MR. LUDWIG:
Q Good afternoon, Mr. Fletcher. Thank you for coming today. Could you please tell us where you're currently employed?
A I'm the Principal and Chief Executive Officer of Fletcher Consultants, a California corporation.
Q And what are your responsibilities in this position?
A I'm responsible for the preparation of many environmental reports, including spill prevention plans, as well as doing other environmental compliance related to matters such as Resource Conservation and

Recovery Act permits, RCRA, as well as other water quality and site investigation type responsibilities. We also do tank inspections and certifications.
Q Thank you. When you say spill prevention plans, you're referring to Spill Prevention, Control and Countermeasure plans, sometimes called SPCC plans?
A Correct.
Q So, if I say SPCC, that's what you'll understand me to be referring to?
A Yes.
Q Thank you. So, going to your background a bit, where did you attend college?
A I got my undergraduate degree at the University of Illinois in Urbana-Champaign.
Q And when did you graduate?
A That was 1982.
Q What was your degree in?
A It was a Bachelor of Science in geology.
Q Do you have any graduate degrees, Mr. Fletcher?
A Yes. I have a Master's of Administration from the University of California-Davis with a concentration in natural resource and environmental management.
Q How about any current professional

certifications?
A I am a registered, California registered geologist, also a California registered hydrogeologist, and I'm also a Steel Tank Institute certified inspector.
Q Could you go just one by one and describe what each of those certifications entails?
A Sure.
Q Or what they mean?
A Yeah. The Registered Geologist and the Certified Hydrogeologist are professional licenses granted by the State of California to allow me to sign off on various documents, including those that require geologic interpretations and hydrogeologic interpretations based on requirements in various regulations. The Steel Tank Institute certification is a authorization from the Steel Tank Institute to conduct certified external and internal inspections of aboveground storage tanks, consistent with the SP001 inspection standard.
Q And what did you have to do to obtain each of these certifications?
A For the first two, the registered geologist and certified hydrogeologist, those required education and training, as well as working under a qualified

professional, and eventually taking examinations and passing those, between the geologist and certified hydrogeologist. For the Certified Tank Inspector Program, that involves having requisite background and experience in inspecting tanks, as well as taking a class in terms of a five-day class, passing examinations, as well as passing some medical related requirements.
Q Thank you. Mr. Fletcher, are you familiar with the Oil Prevention -- Oil Pollution Prevention regulations that are contained in 40 CFR Section 112?
A Yes, I am.
Q How often do you deal with these regulations?
A On a daily basis.
Q Before joining FCI, founding FCI, what did you do?
A From 1992 until 2002, I worked for Pacific Gas & Electric Company. In that capacity, I was an environmental coordinator, a principal environmental coordinator, as well as a utility program manager.
Q Could you just briefly describe what you did in each of those positions when you were at PG&E?
A Sure. I started my career at PG&E as an environmental coordinator at the Pittsburgh Power

Plant, which is a large thermal power plant. That facility had a large National Pollutant Discharge Elimination System, NPDES, permit, as well as it had a Resource Conservation and Recovery Act, RCRA, permit, and 19 aboveground storage tanks.
THE COURT REPORTER: Excuse me, could you slow down, please.
THE WITNESS: I'm sorry. Do you want me to go back to it?
THE COURT REPORTER: As well as it had resource?
THE WITNESS: It had Resource Conservation and Recovery Act, RCRA, permit. It also had 19 aboveground storage tanks, and it was subject to both the SPCC and the Oil Spill regulations associated with that, including being a facility that required a Facility Response Plan.
BY MR. LUDWIG:
Q Thank you, Mr. Fletcher. I frequently have the same fast-speaking problems. So were you involved in SPCC plans at all when you were at PG&E?
A Yes. In those instances, we, of course, dealt with those at the power plant I worked at. Subsequent to working at the power -- after working at the power plant, I moved to San Francisco, where I

provided technical support in areas of water quality, remediation matters, as well as just overall general compliance in the environmental context of power generation. The last position I had at PG&E involved working as the Utility Environmental Program Manager, which was dealt through a broad variety of different types of environmental programs, including everything from endangered species to SPCC to a wide variety of other matters associated with environmental issues at the utility.
Q Thank you. Do you have any teaching experience in the field of tank inspections, Mr. Fletcher?
A I do. I've been a contract instructor for the Steel Tank Institute, and that class that I teach is the five-day long Steel Tank Institute SP001 Tank Inspection Standard certification, which trains inspectors to become certified inspectors.
Q How many people teach the course for the STI SP001 class that you just described?
A There are only two of us.
Q So you're one of two?
A One of two in the U.S., and this is a national program, although the class does have individuals from all over the world that attend.

Q In your capacity of teaching, do you ever train federal, state, or local inspectors?
A Yes. In addition to training that class, I also train state and local inspectors on the principles of AST inspection, including classes for the Certified Unified Program agencies.
Q And just for the record, when you say AST, you're referring to Aboveground Storage Tanks?
A Correct.
Q In addition to your teaching experience, do you have any committee appointments related to ASTs or Aboveground Storage Tanks?
A Yes. In 2013, I was appointed by the California State Fire Marshal to the Aboveground Petroleum Storage Act, APSA, Advisory Committee, and in that capacity, I serve as a technical resource for them.
Q Thank you.
MR. LUDWIG: At this time, I would ask Your Honor to qualify Mr. Fletcher as an expert in the field of aboveground storage tanks.
MS. SUGERMAN: I have no objections.
JUDGE BIRO: So qualified.
MR. LUDWIG: Thank you, Your Honor.
//

BY MR. LUDWIG:
Q Mr. Fletcher, if we could now spend a little time just getting some background of the industry standards for inspecting tanks. Could you just briefly describe what are the industry standards for inspecting aboveground storage tanks?
A There are two major industry standards for inspecting aboveground storage tanks. For shop fabricated and smaller field erected tanks, as well as portable containers, that standard would be the Steel Tank Institute SP001 inspection standard. Another standard that's widely used is the American Petroleum Institute, API, Standard 653. That's geared a bit more toward larger field erected tanks, but it can also be used for smaller tanks as well.
Q So, just to confirm, the SP001 standard is used for, generally used for smaller tanks?
A Yes. That's restricted to tanks that are 30 feet in diameter and 50 feet tall, but it's primarily used for soft fabricated tanks.
Q And the API 653, by contrast, is more generally used for larger tanks?
A Yes, but it can also be used for smaller tanks as well.
Q Mr. Fletcher, when did you become involved

in this case?
A I first was retained by the basic resources in 2014.
Q And for what purpose?
A I was asked to prepare an inspection program for them based on the industry standards for their facility in West Sacramento.
Q And what did you specifically do for VSS, the Respondent in this case?
A Well, first, I had visited the site to determine what the inventory was at their facility, including the different types of tanks, what products they held, and other aspects of the facility. Based on that information, we went ahead and developed a series of periodic checklists for them; that would be a monthly and in some cases annual inspection checklists, as well as developed a program for the facility to conduct more what are known as formal inspections, which would be external or internal inspections. Those are conducted by certified or authorized inspectors.
Q So what was the purpose of the Tank Integrity Inspection Program that you developed for VSS?
A The purpose of that was essentially to

conform with the requirements in 40 CFR 112.8(c)(6), which is the integrity testing requirements that bulk storage containers are required to be inspected to.
Q Do you have any understanding whether the program that you developed through them was intended to become part of their SPCC plan?
A Yes, that would be typically included and, as I understand it, was included in their SPCC plan.
Q In your initial dealings with VSS, can you please describe your impression of their attitude or the company's attitude towards compliance with tank integrity testing?
A Well, I would say certainly, if they reached out to our firm, and we're a little bit different than others, but we focus a lot on tank integrity assessments and integrity matters. So, in that regard, my impression was they were very eager to conform with the requirements of the standard and definitely wanted to remain compliant with the requirements.
Q And what did you do to develop the integrity testing program for VSS?
A Specifically, we identified each of the tanks on the actual facility, and then we determined based on the characteristics of the tank that that

would be the design of the tank and the style of construction, as well as the liquids that they held, and finding a little bit more about the specific gravity of those systems. From that, we developed the inspection program and determined which inspection standard would be more appropriate for that individual tank. So, for some tanks, we selected the SP001 program; other tanks, we elected to recommend the API 653 inspection.

Q And how did you determine the applicable industry standard, SP001 versus API 653, for each tank?

A We did that by looking at the applicable requirements in each standard. So, for example, in the SP001 standard and the version that we were using at the time that we did the initial program development was September 2011 version. There's since been a more recent published version. So, in that case, that standard does not cover things like riveted tanks, of which there were some at the facility. It also did not cover tanks that are heated to elevated temperatures. It also did not cover tanks that may hold liquids that have a specific gravity greater than 1, like some asphalt emulsions may be.

Q Could you please turn to RX-9, which has

already been admitted into evidence. I think one of the binders may have fallen, so I want to make sure that we have everything up there.

A You said RX-9?

Q RX-9, correct.

A And this starts with a letter from Snell & Wilmer?

Q Correct. If you turn to the following page, it might be more familiar with this document. Do you know what this document is, Mr. Fletcher?

A Yes. This is the transmittal of our integrity testing program for the VSS facility in West Sacramento that we prepared.

Q And how about the pages that follow it?

A This is the actual inspection program content and the rationale behind it. It also includes some guidance for the facility to conduct the inspections.

Q Did you prepare this document?

A Yes, I did.

Q Could you please summarize the tank integrity testing program that's contained in RX-9 that you developed for the VSS facility?

A Sure. So, specifically, what we did was, depending upon the individual tank construction and

other features, we identified whether it would fall under the API 653 inspection standard or whether it was field constructed or shop fabricated. Along with that, based on this information, we went through the inspection checklists that are provided in the respective standards and tailored those for the facility. Now these would be the routine inspections that would be done by the facility. Later on in that document, we also lay out an inspection program that talks specifically about formal certified inspections for the plant.

Q So let's break those down. You mentioned periodic inspections. How often are those performed?

A Those are typically performed monthly.

Q And who's to perform those inspections?

A Those are conducted typically by trained facility staff.

Q And what do these types of inspections typically involve?

A They're primarily visual inspections, because normally the people that work at facilities are the ones that are most familiar with their tank systems and their operation.

Q And then moving on to the other hand, formal inspections. How often are formal inspections

typically performed?

A Formal inspections, the frequency of formal inspections varies by the type of tank, the configuration and the actual standard used. Typically, these are not constructed -- conducted rather all that frequently; typically on a five- to 20-year cycle, depending upon the actual specific standard and the actual equipment or tank that we're looking at.

Q And who's to perform these formal inspections?

A These are conducted by authorized or trained inspectors from either API or SP001, so these are individuals who have been through the training and have passed examinations to conduct these types of inspections.

Q And can you just briefly describe how a sort of periodic routine inspection that's supposed to be done every month differs from the more formal inspections that are done on that five- to 20-year cycle?

A Sure. From the visual side, the inspections that a certified inspector would do are more detailed, and they're really trained to look at more specific features on the tank, particularly in areas of the

tank that we know from experience might be more important to the integrity of the tank. The periodic inspection would be more of a general discussion or review of the tank features themselves, including the shell and foundation, other matters like that.

Sometimes, in many inspections, actually, especially if the tank is single walled, as part of the certified inspection, that would be the less frequent ones, ultrasonic thickness testing may be used, along with other techniques. But, primarily, the big difference is that the visual inspections conducted by the certified inspector are more detailed and based on experience and training.

Q And is there a difference in the work product from a formal inspection versus a periodic inspection?

A Yes. A formal inspection is typically prepared and a written report is submitted to the client describing what the outcome of the inspection was.

Q And how about a periodic inspection, if you know?

A A period inspection would be filled out on a form that the facility would have and would routinely keep in their records.

Q And there are multiple types of formal inspections, right?

A Yes. There are both external inspections, which are the ones that are conducted while a tank is in operation. That's essentially checking the outside of the tank and perhaps doing some ultrasonic thickness testing if the tank is set up to do that. An internal inspection, on the other hand, is more involved. That requires taking the tank completely out of service and removing all of the product from the tank and making it safe for entry into the tank for the inspector to go in and actually take a look at what the internal condition of the tank is.

Q Could you please just describe in general terms what an external formal inspection would entail?

A Yes. In this instance, we could probably talk about the API 653 standard a little bit more. That will typically include a summary of the inspection that's done by the actual inspector. It'll also include a more detailed inspection checklist that the inspection company develops. That would also incorporate those components from Annex C of API 653, which is a checklist that API provides for certified inspections. It'll also typically include stuff like a settlement survey, where the actual consultant or

tank inspector will do a survey to see if there's been a -- do an elevation survey, if you will, of the tank. Often, these will include some calculations perhaps regarding stuff such as seismic considerations. It'll also typically include, for an API 650 style tank, it'll actually include some of the ultrasonic thickness test results.

Q And can you contrast that with an internal inspection?

A Yes. The internal inspection comprises most of those components, but the part that an internal inspection is really valuable for is evaluating the bottom plate of the tank. That's the part where the tank bottom sits on the soil or foundation, and that requires additional evaluations typically. And they use a device called a magnetic flux leakage tool. That's designed to check for any sort of discontinuities beneath the base plate itself. That's typically followed up by ultrasonic thickness testing in that regard. They'll also do a close visual inspection of the wells and various other features inside the tank.

Q Mr. Fletcher, can you please turn to CX-17, which has already been admitted into evidence. CX-17, it's in the white binders.

A Oh, sorry. Okay. I'm there.

Q Do you know what this document is, Mr. Fletcher?

A This is essentially a consolidated plan involving hazardous materials, environmental compliance, and contingency business plans for the facility.

THE COURT REPORTER: Excuse me. Can you please slow down?

THE WITNESS: I'm sorry.

THE COURT REPORTER: Hazardous materials and?

THE WITNESS: Hazardous materials, environmental compliance, and contingency business plans. This meets requirements for a number of different components for the facility in terms of environmental compliance, including the Spill Prevention, Control and Countermeasures plan.

BY MR. LUDWIG:

Q Thank you. Could you please turn to page 45 of this document?

A Okay.

Q And would you mind reading into the record the sentence under subsection (b), Inspections and Tests, 40 CFR 112.8(c)(6)?

A That was number B, correct?
Q Yes, yes, subsection B.
A This reads, "Tank testing and inspection protocols for the facility have been prepared by Fletcher Consultants, Inc. (Integrity Testing Program for bulk storage containers written by Fletcher Consultants, Inc.) and is located in Appendix E."
Q Would you mind turning to page 98 of this same document, please? Mr. Fletcher, is what follows for the next 30 pages or so the report that you prepared and what we've been discussing so far?
A Yes, it does.
Q Thank you. Now, in talking about preparing this report, what was the first step that you took in preparing the report, the Integrity Testing Program -- sorry?
A Well, as I explained earlier, that talks about getting the tank inventory at the facility, determining appropriate inspection standard based on the tank design and contents, as well as other factors as well.
Q Did you visit the site in gathering that information?
A I did.
Q And do you recall when about you visited the

site?
A That would have been sometime in the summer of 2014 or maybe a little bit in the spring or summer of 2014.
Q Okay. Now, if I can trouble you to turn to RX-2, which will be back in one of the black binders, and if you could turn to page 55 when you're at the correct tab, that would be terrific.
A Yes, I'm there.
Q Do you know what this document is, Mr. Fletcher?
A I do. This is the bulk storage container inspection fact sheet prepared by the Environmental Protection Agency.
Q And have you reviewed this document before?
A Yes, I have.
Q Can you please turn to page 58, just a couple pages after? Do you see the paragraph, "When no or only partial baseline information"?
A Yes, I do.
Q Would you mind reading that paragraph into the record, Mr. Fletcher?
A Sure.
JUDGE BIRO: We don't need to read a whole paragraph.

MR. LUDWIG: Oh, okay. Apologies, Your Honor.
BY MR. LUDWIG:
Q Mr. Fletcher, would you mind reviewing that paragraph if you're unfamiliar with it?
A I'm familiar with it.
Q How, if at all, do you use the information contained in this EPA fact sheet and specifically this paragraph in preparing the Integrity Program for VSS?
A We used this document as part of the compilation of that, because it does do a -- this paragraph in particular talks about the actual phasing in of the baseline information conducted by the certified inspections. So we set up the program so that the facility can do the formal external inspections and then do the internal inspections on one-quarter of the inventory that were in active service in subsequent years, much following like as described in this paragraph.
Q And when does this paragraph set as a deadline for the completion of those baseline inspections?
A This one talks about --
THE COURT REPORTER: I'm sorry. Could you repeat that question?

JUDGE BIRO: Okay. Look, I'm really happy to accommodate you taking a duplicate record in this proceeding, but we cannot keep stopping to accommodate. Please go on.
MR. LUDWIG: Of course, Your Honor, apologies.
BY MR. LUDWIG:
Q When does this paragraph set as a deadline for the initial baseline inspections for the tanks to be completed?
A This uses the five-year cycle of a typical SPCC plan.
Q And at the end of that paragraph, it references November 10, 2016, is that correct?
A Yes, it does.
Q Mr. Fletcher, after completing your assessment, what did you do with the information that you received?
A I prepared the Integrity Testing Program and transmitted that to the facility.
Q And what approach did you suggest for the facility in the program that you developed?
A Well, the good thing about using this sort of phased approach is it helps to facilities -- we did not specify which specific tanks would be required to

be inspected, and what we used is a quarter of the inventory that's in active service each year that -- we didn't get that specific. We left enough flexibility for that process so the facility can adapt their operations so they wouldn't need to take every single tank out of service at the same time. And that phased approach also allows sort of lessons learned as you go through that year-over-year basis. You can learn a lot from the tanks you may internally inspect in the first year. That will give you typically clues to what to expect from other tanks as you go into subsequent years, and that's good for planning purposes.

Q Thank you. Would you mind turning to page 6 of 29 of RX-9?

JUDGE BIRO: Did you say RX-29?

MR. LUDWIG: RX-9.

JUDGE BIRO: Oh, RX-9.

THE WITNESS: I'm there.

BY MR. LUDWIG:

Q Okay. And is this the schedule that you just -- the so-called phased approach that you just explained?

A Yes, it is.

Q And what, if any, flexibility did this

timeline allow in order to remain compliant with the industry standards that we've been discussing?

A Well, this certainly provides the baseline information. And the flexibility, it also provides this for the facility, because, based on facility needs, they can select which tanks they would need to start doing the internal inspections on based on this.

Q So, after you finished preparing your report and you presented it to the facility, what were the next steps that were taken by the facility after the report was developed?

A In 2015, I believe it was 10 certified external inspections were conducted by Powers Engineering. I worked with Powers Engineering to get those reports developed.

Q To the best of your knowledge, did Powers conduct a formal external inspection of Tanks 835, 836, 837, 838, 849, 852, 865, 880, 882, and 883 in or around February 2015?

A Yes.

Q And did Powers prepare reports of these tank inspections?

A Yes, they did.

Q Have you reviewed these reports?

A Yes, I have.

Q Were you involved at all in their preparation?

A I reviewed them, the drafts of those reports, for consistency with the standard as well as for accuracy.

Q After those -- when, if at all, did your role with VSSI's inspection program come to an end?

A That came to an end around May 2015, the end of May 2015.

Q Is that after those initial 10 reports were competed?

A That's correct.

Q When was the next time that you were contacted by VSS?

A In early 2019.

Q And for what purpose?

A That was to come back to the facility, provide services, and basically take a look at what had been done since the last time that we had submitted the Integrity Testing Program.

Q Okay. And what did you learn from your renewed involvement with VSS based on any -- well, did you revisit the faculty?

A Yes, I did. I revisited it on April 19 -- 16th rather, sorry.

Q And what did you learn from your visit to the facility?

A Well, the visit to the facility revealed there were a number of changes at the site, including the replacement of about nine tanks that were formerly there, of course, when I first inspected it. I also learned that there had been additional certified external inspections conducted in 2016, along with several internal inspections that were conducted.

Q Did you notice whether any tanks had been taken out of service?

A It appeared that some tanks had been taken out of service. That can be difficult to confirm conclusively. Several tanks I observed that were empty and were essentially open, they appeared to have been in the stages of either getting ready for or in preparation for internal inspections or related type of evaluations.

Q Okay. Let's take a look at one of the reports. Would you mind turning to RX-54, please?

A Yes, I'm there.

Q What is this document, Mr. Fletcher?

A This is an API 653 external tank inspection of Tank 817 at the VSS Emultech facility, West Sacramento, California.

Q What type of tank is Tank 817?
A This tank is a vertical cylindrical insulated tank that was likely constructed to the API 12 standard, 12C, which is a predecessor to the API 650 construction standard.
Q And just to clarify, the standards that you just referenced are construction standards, not tank inspection standards, correct?
A That's right. That can be a little confusing for some people. There are construction standards for tanks, how they're built and how they're to be designed, and then there are inspection standards. So the construction standard for field fabricated tanks is largely API 650, not to be confused with API 653, and then the typical shop fabricated construction standard would be UL 142, Underwriter Labs 142.
Q Thank you. So what is your expert opinion, Mr. Fletcher, about whether the external tank inspection detailed in RX-54 satisfies the applicable industry standard API 653 for tank integrity testing?
A I believe this fulfills the requirements for tank integrity testing for certified external inspections for this tank. It has a number of features to it that are part of the API 653 inspection

requirements, including the summary and action items or required actions to be taken, along with basic information about the tank. It includes a settlement survey, a shell thickness calculation, including -- it also provides what's known as a shell rollout. That's a depiction of the tank plates, if you will, in terms of where the fittings go on the tank. It also includes some venting calculations, as well as the API 653 inspection checklist, which comes out of the standard in Annex C. It also includes photographs, as well as some nondestructive evaluation, which will be ultrasonic thickness testing.
Q And does the report appear comprehensive in relation to API 653?
A Yes, it does.
Q To save some time, Mr. Fletcher, have you reviewed other external tank inspection reports that Powers has prepared for VSS?
A Yes, I have reviewed them all.
Q And have you reviewed the reports that are contained in RX-55 through RX-64, as well as RX-66? You can take a minute to look if you need to refresh yourself.
A Yes, I have reviewed these.
Q Okay. And what is your expert opinion about

whether the external tank inspection reports detailed in those exhibits satisfies the industry standard for tank integrity testing?
A It's my opinion those certified external inspections meet the standard for tank integrity testing.
Q Is that based on the same reasons that you just elaborated on for RX-54?
A Yes, the content and scope of the inspection.
Q And you mentioned before that you had reviewed reports, 10 additional reports that were done in 2015. In your opinion, do those inspection reports that you had previously reviewed comply with the industry standard?
A Yes, they do.
Q Again, for the same reasons that you elaborated on with respect to RX-54?
A That's correct.
Q Mr. Fletcher, have you reviewed external tank inspection reports for Tanks 2001 and 2002, the two large white tanks that are depicted in CX-1?
A Yes, I have.
Q Okay. And what is your onion about whether those reports for Tanks 2001 and 2002 satisfy the

industry standard for tank integrity testing?
A They do, Because these are relatively new tanks, some were actually -- one was actually done before the five-year certification. These are insulated tanks, so access to the shell itself for doing ultrasonic thickness testing is somewhat limited, but the scope of those reports appears consistent with what is in these reports here.
Q Mr. Fletcher, to the best of your knowledge, have all tanks at the VSS facility either received a formal external inspection or been replaced?
A To my knowledge, yes, they've all -- all of the tanks at the facility have either been replaced or have had a formal external inspection conducted.
Q Thank you. And what is the effect, by the way, of replacing the tank in regards to tank integrity testing?
A Well, that basically resets the clock in terms of what inspection standard would be used. So, for example, at this facility, they replaced some of the tanks with UL 142 designed tanks that you may recall is a shop fabricated silo tank design. And with that approach, we would typically modify the inspection program to reflect the use of that standard in lieu of API 653 going forward, but it does reset

the clock, if you will.
Q So I've reset the clock and can even reset the standard as required?
A Correct.
Q Thank you. Now let's go through an example of an internal tank inspection report. Can you please turn to RX-68?
A Okay.
Q What is this document, Mr. Fletcher?
A This is an API 653 out of service internal tank inspection and suitability for service evaluation for Tank 882 at the VSS West Sacramento facility.
Q What type of tank is Tank 882?
A This is a vertical cylindrical tank. I believe it's known as a field erected tank.
Q Mr. Fletcher, what is your expert opinion about whether the internal tank inspection report for Tank 882 detailed in RX-68 meets the industry standard for tank integrity testing?
A I believe this fulfills the requirements for internal inspection for integrity testing purposes.
Q Could you briefly just elaborate on why you believe that is?
A It has -- the components in an internal inspection, as I mentioned before, have to do with

evaluation of the bottom plate of the tank, as well as other interior features of the tank. In this case, they have evaluated that using magnetic flux leakage equipment, along with ultrasonic thickness testing, and they've also done a 100 percent visual inspection of the tank bottom plate and various features on the inside of the tank. They've also done additional work associated with other aspects of the inspection, including the Annex C forms and API 653 that pertain to internal inspections. So, in that regard, this appears to be consistent with the standard.
Q And does this report appear to be comprehensive in relation to the industry standard, API 653?
A Yes, it does.
Q And have you reviewed the other internal tank inspection reports contained in RX-65 and 67?
A The answer is yes.
Q And what is your opinion about whether the internal tank inspection reports contained in these exhibits meets the applicable industry standard?
A These also meet the applicable industry standard. Like any inspection, there are certain aspects where you may not be able to see certain things. And let me give you an example of that. In a

normal tank inspection, you may be requested to evaluate the roof of the tank. If there is no safe access allowed up to the roof, you're not going to be able to include that in your actual assessment. In this case, these have the same components as the other inspections. There were a few places where the inspector could not fully evaluate the entirety of the inside of the tank, but, nevertheless, the approach is similar in context in terms of what the inspection standard calls for.
Q So the methodology was --
A The methodology is similar.
Q Understood. Okay. And is your reasoning behind why these reports have followed API 653 the same as that you outlined -- that you described with relation to RX-68?
A Yes. It follows the same format, has the same content, it has the same inspection materials and the same types of components that you would typically see in an internal inspection.
Q Okay. Could you please turn to RX-96 now?
A Okay, I've got it.
Q Have you seen this document before, Mr. Fletcher?
A Yes, I have.

Q What is this document?
A This is very similar to the previous document in 2014. This is the combined plan of the VSS facility, including the SPCC plan.
Q Could you please turn to page 96 of 163 of this document -- I'm sorry, page 95.
A Okay.
Q What is Appendix C to the 2017 combined plan?
A This is the written schedule integrity testing program that we had prepared for the facility back in 2014.
Q So it remained incorporated into this document?
A Yes, it did.
Q Now can you please turn back to page 57 of 163 of this same document?
A Okay.
Q Can you please take a look at the paragraph under Subsection B, Inspections and Tests, the sentence starting or the paragraph starting with "Tank testing and inspection protocols."
A Okay.
Q What does this paragraph describe, Mr. Fletcher?

A This paragraph reflects that the integrity testing program was modified to reflect the installation of, it appears to be six new tanks, along with the introduction of Tank 2002, and this identifies the inspection standard as SP001 for Tanks 819, 821, 822, 835, 836, and 837.

Q And does the paragraph above also indicate that certain tanks were placed out of service?

A Yes, it does.

Q Mr. Fletcher, in your opinion, is it or is it not standard in the industry for an SPCC plan's tank inspection schedule to be modified based on tanks being replaced or placed out of service?

A Yes, it should.

Q Based on your -- you mentioned an April 2019 visit to the VSS facility -- based on that visit, what, if anything -- or strike that. Did your visit to the VSS facility in April 2019 confirm what is contained in this May 2017 combined plan?

A Yes, I saw that these tanks had been replaced.

Q And based on that same visit, did you notice anything else that had changed about the facility since the 2017 plan?

A Yes. There was an additional tank, I

believe. I think two or three tanks had also been replaced at the facility.

Q Does it sound correct that Tanks 833, 834, and 878 were also replaced?

A That's correct.

Q Mr. Fletcher, in your opinion, is there any reason to inspect a tank that is going to be replaced?

A If an owner was confident in replacing a tank in a short term, there really wouldn't be any specific reason to conduct an integrity -- a formal external inspection if you knew that the tank was going to be removed from the site in the short term. It would be sort of similar to like if I had a car that I knew was going to go to the junkyard; I would not pay a mechanic to have him come through and tell me that I had bald tires and the engine was bad. So that's kind of the analogy in that regard.

Q And what effect, if any, did VSS's changes to the facility have on the tank inspection schedule that you had initially prepared in 2014?

A Certainly, the addition of -- the replacement of these tanks changes the integrity testing program to align these more with the shop fabricated tank standard, so that's -- certainly, that's a big change. That's a big investment for the

facility. And I did note that they had completed essentially the certified external inspections of all the tanks at the facility, save for those that were out of service. And I think that's probably the bulk of the differences that I came across.

MR. LUDWIG: Much appreciated. The Court's indulgence for just a moment.

(Pause.)

MR. LUDWIG: I have no further questions at this time, Your Honor.

MS. SUGERMAN: May I have 10 minutes, please?

JUDGE BIRO: Yes, you may. We'll stand in recess until 2:00.

(Whereupon, a brief recess was taken.)

JUDGE BIRO: Please be seated. We're going back on the record.

Ms. Sugerman?

MS. SUGERMAN: Thank you.

CROSS-EXAMINATION

BY MS. SUGERMAN:

Q I just have a few questions. I would like to start at CX-18, page 95. And will you just remind me, what was the date you were first hired to work with VSS?

A I believe that was in early 2014.

Q In 2014. Okay. And if you look at the text and just below. So this is, for the record, this is a copy of your report, do you agree?

A Yes.

Q Okay. And just below the heading that says Formal Certified Inspections, can you read that first sentence into the record, please?

A Yes. "The ASTs at the facility have not been formally inspected either internally or externally since their construction at the site."

Q And do you have a general sense of how old the majority of the tanks are at the facility, and if not, I will direct you to some exhibits, but do you know off the top of your head?

A Generally, most of the tanks at the site were fairly old. Some of the tanks that had riveted construction would have probably dated to the 1940s, and then some of the other tanks, based on their construction style and the reports that I've read, suggest they're probably from the '50s, something in that time frame. Riveting as a tank construction technique was pretty much eliminated with the advent of stick welding techniques following World War II.

Q Thank you. And in your experience as an

inspector, what's the intent of the API and the STI standards? What's the reason they want you to inspect these every five or 10 years?

A That's for determining whether these tanks are suitable for continued service until the next inspection.

Q And did you understand the importance of the tank testing and inspection when you were hired to write these reports -- I mean, to give them the schedule?

A I certainly understand the requirements for that and the rationale behind it and why you would do that work, yes.

Q And as part of that, you testified to your familiarity with 40 CFR Part 112. Are you familiar with the recordkeeping requirements in those regulations?

A Yes, the requirement to keep records for three years? Is that what you're referring to?

Q Yes, the permit, yes. Okay. I'd like to turn you back to RX-50, and if you'll turn to page 4. This was text that you went over with counsel earlier. And at the bottom of the same paragraph that begins "When no or only partial baseline information is available," if you'll look to the second to the last

sentence there, it gives this example of the five-year cycle to get a baseline down. Do you agree?

A Yes.

Q And that five-year cycle is tied to when the SPCC plan was last amended. Do you agree with that?

A Mm-hmm.

Q So, in this example, when you were hired in 2014, VSSI had a 2012 SPCC plan on the books, and one purpose of this fact sheet is to discuss when these tank requirements came into place. So, from the 2012, the last amendment, what would have been the end of VSSI's five-year SPPC cycle?

A I did not have -- I don't know the exact date of their SPCC plan at the time that we did this work, but, if it was in fact 2012, it would be five years after that.

Q Okay. And I should have suggested you kept open the copy of your report. If you'll go back to CX-18, CX-18, page 96, please. So, given that you found that many of these things seem to have never had baseline established, was it your intent with this program, the schedule you set out, to try and get them to get these tanks inspected as soon as possible without disrupting their operations too much?

A Yes. With the way this was set up, this was

to have the external inspections completed by the end of the 2014-2015 winter season.

Q So, if they had followed this schedule, they might have been done in time for the end of the five-year SPCC cycle. Do you know whether they followed this schedule?

A I believe they were behind somewhat on this schedule, but that is a facility question.

Q Now I also found counsel speaking a little bit quickly, so I may not have followed this, but he provided, I believe, a list of 10 tanks that were inspected in 2015, and I thought I heard in that list 865 and 882, and I'll just confirm with counsel that that's what I heard? Or, Mr. Fletcher, if you have these memorized, which 10 tanks were in 2015?

MR. LUDWIG: 865 and 882 were among the tanks that were in that list I gave.

MS. SUGERMAN: Okay.BY MS. SUGERMAN:

Q Can we turn to RX-66, please.

A You said 66?

Q Yes, 66. Can you describe this document for me?

A Yes. This is an API 653 external tank inspection and suitability for service evaluation for Tank 865.

Q Do you see in the middle of the page there's sort of a table bar that says when the inspection occurred?

A Yes.

Q And what date does that show?

A This shows the tank was inspected in June 2016.

Q 2016. And then please turn to RX-68. Tell me which tank it looked -- describe that one for me.

A This is an out-of-service internal tank inspection for Emulsion Tank 882.

Q And the date on that one?

A January 2018 -- oh, I take that back. Let me just confirm. Yeah, I believe that is January 2018.

Q You testified that there were -- was it an external or an internal tank inspection for Tank 2001? Do you recall?

A That would have been an external inspection.

Q Do you recall when you -- so you didn't do the inspections, correct? You just scanned reports?

A Correct.

Q Do you recall when you might have seen that report?

A I believe that was relatively recently.

Maybe -- I think that was in 2019 if I'm not mistaken.
Q And if that tank went into service in 2012, under the industry standards, when should the first external certified inspection have occurred?
A Five years after the initial service date.
Q So 2017, does that sound right?
A Yes.
Q I believe you testified to the range of inspections, so I think you described one as periodic inspections, is that correct? And are those -- those are -- can those be performed by facility personnel?
A Yes. Those are designed to be performed by facility personnel.
Q Do they generally include visual inspection?
A Yes.
Q And can they conduct visual inspections of the insulated tanks generally?
A You're talking about the periodic inspections done by facility staff?
Q Correct.
A They may be able to look at aspects of the exterior of the tank depending upon the condition of the insulation, but, in many cases, that obscures the tank surface itself. But, nevertheless, there still are other items they can check on the tank to

determine, or at least visually check, some aspects of integrity.
Q Is it true that for insulated tanks, some of the insulation would need to be removed to do an adequate visual inspection?
A Not necessarily for the periodic inspections. For the external inspections, it would -- traditionally, you would remove some of the insulation to be able to collect on a single wall vertical tank or have access ports to be able to do some ultrasonic thickness testing of the tank shell.
Q And in your opinion, we have discussed the requirements and the regulations for maintaining the proper records, and you testified to your schedule here that was supposed to start in the 2014-2015 winter season. In 2014 and before any of the 2015 inspections were completed, did VSSI have adequate documentation for the tank inspections, prior to beginning their tank inspections essentially?
A In other words, prior to our engagement of the facility, did they -- were they doing inspections consistent with industry standard?
Q Correct.
A I don't know that.
Q When you were hired to do your work at the

facility, did you ask initially for any records relating to historical tank inspections?
A I saw some routine inspections. Whether those were comprehensive or met the industry standard, I can't say. We develop our inspection protocols based on SP001 and API 653 and the guidance associated with those.
Q So, in your expert report, when you wrote that the facilities have not been formally inspected, either internally or externally, was that not referring to the API or the STI standards?
A Can you refer me to that?
Q Yes, CX-18, page 95.
A That was CX-18?
Q CX-18, page 95.
A And what section, what paragraph was that?
Q So it's the first, it's that bold heading in the middle that says Formal Certified Inspections.
A Yes, that is correct. They have not been formally inspected prior to the work that was first conducted in 2015, and this takes into account practical and operating conditions, and this is designed to bring them into conformance within five years.
Q Were you involved at all in determining what

records would be submitted to EPA?
A No.
Q Give me one second, please. I think we discussed this, but do you recall the report date for a Tank 2001 external inspection?
A I saw that report I believe it was sometime in 2019.
Q Would you be able to give us some estimated numbers for the cost of hiring you for this initial report that gave them a schedule for compliance?
A This was a fairly comprehensive work package. This is not something that is commonly done, although we do this for our SPCC plan clients, where we provide detailed inspection checklists that are based on industry standards, including guidance. I would say something on the order of 10- to 15,000.
Q And do you know the cost of, for example, one of the Powers Engineering external tank inspections, including the report?
A Those are probably, for an external inspection, I would say the cost of those were probably $2,000, to round numbers.
Q Do you know does the tank of an internal -- does the cost of an internal inspection vary?
A An internal inspection itself,

notwithstanding the cost of preparing the tank for getting -- doing -- performing the internal inspection, is a bit more than that, probably 3- to 4,000, something like that.

MS. SUGERMAN: Thank you. That's all my questions.

JUDGE BIRO: Redirect?

MR. LUDWIG: Just a few.

REDIRECT EXAMINATION

BY MR. LUDWIG:

Q Mr. Fletcher, you looked at a report in RX-66 for Tank 865 just a couple minutes ago. Do you recall that?

A Yes. Can you give me that reference number again?

Q Sure, RX-66.

A Yes.

Q And that report was dated 2016, correct?

A Correct.

Q Do you have any recollection about whether Tank 865 was inspected twice?

A I believe it was inspected twice.

Q Once in 2015 and then once in 2016?

A That's correct.

Q Okay. And is a tank -- again, the external

inspection -- inconsistent with it being out of service?

A An external inspection can be done on a tank in service or out of service.

Q And my last question to you is, is it common for tank inspections to be out of date in your professional experience or be behind schedule?

A I would say yes, because the challenge has been in the industry, is there are literally hundreds of thousands of tanks in the United States that were installed before the advent of the requirement to perform inspections consistent with an industry standard, which became in effect in the 2010-2011 time frame. So, throughout the United States, there are a number of tanks under either API 653 or SP001 that are greater than five to 20 years old. So the industry's in sort of a state of catch-up, if you will, so that's kind of the state of the practice.

MR. LUDWIG: No further questions, Your Honor.

MS. SUGERMAN: No further questions.

JUDGE BIRO: Thank you, Mr. Fletcher.

THE WITNESS: None?

(Witness excused.)

JUDGE BIRO: Okay, Mr. McNeil, any further

witnesses?

MR. MCNEIL: Respondent rests.

JUDGE BIRO: Okay. Thank you.

Does the Agency have any rebuttal witnesses it wishes to call in this proceeding?

MR. HELMLINGER: No, the Agency rests.

JUDGE BIRO: Okay. We don't normally do closing arguments because we have post-hearing briefs that we allow people to submit when we have all the evidence together with the transcript. Andrea's going to go over a list with you of all the exhibits that we believe have been admitted into the record, and now is the time to raise an issue.

MS. SUGERMAN: I do believe there was some issue with some exhibit?

JUDGE BIRO: Okay.

MS. SUGERMAN: Oh, there it is.

JUDGE BIRO: Some issue that -- there's some exhibit that you think was admitted that wasn't. Otherwise, we're going to go with this set of exhibits and no others. Okay?

MS. PRIEST: Okay. For Complainant's exhibits, we have CX-1, CX-2, CX-4, CX-5, CX-6, CX-7, CX-8, CX-9, CX-10, CX-12, CX-13, CX-15, CX-16, CX-17, CX-18, CX-19, CX-20, CX-22, CX-24, CX-25, CX-26, CX-

33, CX-34, CX-35, CX-36, CX-45, CX-46, CX-47, CX-48, pages 10 through 23, CX-50, CX-52, CX-53, CX-55.

MR. HELMLINGER: Actually, I stipulated to a broader range there, but some weren't discussed in testimony, and so, in your counting, you skipped a couple.

MS. PRIEST: Okay. Judge Biro, do you have the stipulated Complainant's exhibit?

MR. LUDWIG: I have that handy if it would be helpful.

MR. HELMLINGER: I believe we had stipulated to 1 through 48.

MS. PRIEST: 1 through 48.

MR. HELMLINGER: 52 through 54, and there were a few additions that we had just made through testimony, CX-55.

MS. PRIEST: Okay. So you're saying we have CX -- by stipulation, CX-1 through 48, CX-52 through 54, and then in addition to the ones I previously listed?

MR. HELMLINGER: And 55, which you did list.

MS. PRIEST: Yes.

JUDGE BIRO: Okay. Did you get CX-105?

MS. PRIEST: That's actually RX.

MR. LUDWIG: RX.

JUDGE BIRO: RX, okay.
MS. PRIEST: For Respondent's exhibits, we have RX-1 through 24, RX-29, RX-32, RX-37 through 43, RX-45 through 101, and RX-104 through 106. Is there anything missing from that?
MR. LUDWIG: We'll stipulate. That's what I have as well.
MR. HELMLINGER: That's what I have too.
MR. MCNEIL: So can you just once more list the RX?
MS. PRIEST: Yes. Respondent's exhibits are RX-1 through 24, RX-29, RX-32, RX-37 through 43, RX-45 through 101, RX-104 through 106.
MR. MCNEIL: That's what I have.
JUDGE BIRO: Okay. Those are the only exhibits we consider until we do the post-hearing brief. When we get the transcript in two to four weeks, we'll send out a post-hearing order. It will give you an opportunity to conform the transcript to the testimony if you feel there's a need to do that. Before you submit a motion to conform, you must meet and agree to the greatest extent possible on any changes to the transcript so that there should be very few disputes on changes to be made.
It will also set out in the post-hearing

order the dates for the submission of briefs. We usually do them in series so that the Agency will submit its initial brief and then the Respondent, and then the Agency will have an additional brief if it wants, and the Respondent can do an additional brief. Or we can do them simultaneously if you think that's more valuable, whatever you'd like. You know, if you really have a strong position on that, you should notify us as soon as possible.
Once we get the briefs, we have the transcripts, we'll start writing our decision. It takes six to 12 months to get our decision out. We'll send it to you in the mail. If you're not happy with the decision, anybody's not happy with the decision, you can appeal to the Environmental Appeals Board, and they'll take it under consideration. Thank you very much.
MR. LUDWIG: Thank you, Your Honor.
JUDGE BIRO: Off the record.
(Whereupon, at 2:26 p.m., the hearing in the above-entitled matter was adjourned.)
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REPORTER'S CERTIFICATE

DOCKET NO.: OPA-09-2018-00002
CASE TITLE: VSS International, Inc.
HEARING DATE: May 20, 2019
LOCATION: San Francisco, California

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the U.S. Environmental Protection Agency, Office of Administrative Law Judges.

Date: May 20, 2019

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